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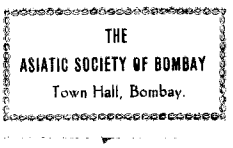

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THE

BIRDS OF ASIA.

BY

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LIST OF PLATES.

VOLUME VII.

Note.—As the arrangement of the Plates in the course of publication was impracticable, the Numbers here given will refer to them when arranged, and the Plates may be quoted by them.

Plate			Part	Date.
1.	Ammoperdix Bonhami	Bonham's Sand-Partridge	III.	June 1851.
2.	„ Heyi	Hey's Sand-Partridge	„	„ „
3.	Microperdix erythrorhyncha	Little Red-billed Partridge	XIV.	May 1862.
4.	Perdicula Asiatica	Asiatic Bush-Quail	XV.	June 1863.
5.	„ Argoondah	Argoondah Bush-Quail	„	„ „
6.	Excalfactoria Chinensis	Chinese Quail	XIX.	May 1867.
7.	„ minima	Minute Quail	„	„ „
8.	Malacoturnix superciliosus	Slate-coloured Partridge	XX.	April 1868.
9.	Coturnix Coromandelicus	Coromandel Quail	VI.	July 1854.
10.	Turnix Dussumieri	Little Hemipode	XXI.	April 1869.
11.	„ fasciatus	Fasciated Hemipode	XIII.	May 1861.
12.	Lobiophasis castaneicaudatus	Chestnut-tailed Lobed Pheasant	XXX.	October 1877.
13.	„ Bulweri	Bulwer's Pheasant	XXVII.	March 1875.
14.	Euplocamus lineatus	Lineated Pheasant	„	„ „
15.	„ Vieilloti	Vieillot's Fireback	IV.	November 1852.
16.	„ Swinhoii	Swinhoe's Fireback	XVI.	April 1864.
17.	Gennæus nycthemerus	Pencilled Pheasant	XI.	May 1859.
18.	Catreus Wallichii	Cheer	XVII.	April 1865.
19.	Thaumalea picta	Golden Pheasant	XVIII.	April 1866.
20.	„ Amherstiæ	Lady Amherst's Pheasant	„	„ „
21.	Diardigallus prælatus	Siamese Fireback	XII.	June 1860.
22.	Crossoptilon auritum	Chinese Crossoptilon	XXII.	March 1870.
23.	Calophasis Ellioti	Elliot's Pheasant	XXVI.	August 1874.
24.	Pucrasia xanthospila	Chinese Pucras Pheasant	XXI.	April 1869.
25.	„ Darwini	Darwin's Pucras Pheasant	XXVII.	March 1875.
26.	„ macrolopha	Himalayan Pucras Pheasant	VI.	July 1854.
27.	„ castanea	Kafiristan Pucras Pheasant	„	„ „
28.	„ Nipalensis	Nepaul Pucras Pheasant	„	„ „
29.	Tetraogallus Caspius	Caspian Snow-Partridge	V.	October 1853.
30.	„ Himalayensis	Himalayan Snow-Partridge	„	„ „
31.	„ Altaicus	Altaic Snow-Partridge	„	„ „
32.	„ Tibetanus	Tibetan Snow-Partridge	„	„ „
33.	Phasianus Reevesii	Reeves's Pheasant	XXI.	April 1869.
34.	„ colchicus	Common Pheasant	„	„ „
35.	„ Shawi	Shaw's Pheasant	XXVIII.	July 1876.
36.	„ chrysomelas	Oxus Pheasant	„	„ „
37.	„ Sœmmeringii	Sömmering's Pheasant	XIX.	May 1867.
38.	„ scintillans	Sparkling Pheasant	„	„ „
39.	„ torquatus	Chinese Ring-necked Pheasant	VIII.	May 1856.
40.	„ versicolor	Japanese Pheasant	IX.	May 1857.
41.	„ Mongolicus	Mongolian Pheasant	X.	June 1858.
42.	Ithaginis Geoffroyii	Geoffroy's Francolin	XXIV.	March 1872.
43.	„ cruentus	Sanguine Francolin	III.	June 1851.

LIST OF PLATES.

Plate			Part	Date.
44.	Tetraophasis obscurus	Mou-pin Snow-Partridge	XXVI.	August 1874.
45.	Ceriornis melanocephala	Western Horned Pheasant	VII.	April 1855.
46.	„ Temminckii	Temminck's Horned Pheasant	XXI.	April 1869.
47.	„ Blythi	Blyth's Horned Pheasant	XXIV.	March 1872.
48.	„ Caboti	Dr. Cabot's Horned Pheasant	X.	June 1854.
49.	„ Satyra	Nipaulese Horned Pheasant	XX.	April 1868.
50.	Polyplectron chinquis	Assam Peacock Pheasant	XXIII.	March 1871.
51.	„ bicalcaratum	Malayan Peacock Pheasant	XXII.	March 1870.
52	Argusianus argus	Argus Pheasant	XXXV.	August 1883.
53.	Lophophorus Impeyanus	Monaul	II.	July 1850.
54.	„ l'Huysi	De L'Huys's Monaul	XXV.	March 1873.
55.	Chalcophasis Sclateri	Sclater's Monaul	„	„ „
56.	Gallus Sonnerati	Sonnerat's Jungle-fowl	XXX.	October 1877.
57.	Sypheotides auritus	Lesser Florikin	XVIII.	April 1866.
58.	Otis MacQueeni	MacQueen's Bustard	III.	June 1851.
59.	Tantalus leucocephalus	Rosy Tantalus	XIV.	May 1862.
60.	Numenius rufescens	Rufescent Curlew	XVI.	April 1864.
61.	Ibidorhynchus Struthersi	Red-billed Erolia	VIII.	May 1856.
62.	Pluvianus Ægyptius	Zic-zac	XVII.	April 1865.
63.	Glareola melanoptera	Black-winged Pratincole	II.	July 1850.
64.	„ lactea	Cinereous Pratincole	XXI.	April 1869.
65.	Cursorius Coromandelicus	Indian Courser	VIII.	May 1856.
66.	Eurinorhynchus pygmæus	Spoon-billed Sandpiper	XXIV.	March 1872.
67.	Gallinula phœnicura	White-breasted Water-hen	„	„ „
68.	Hydrophasianus Sinensis	Chinese Jacana	VII.	April 1855.
69.	Aix galericulata	Mandarin Duck	IV.	November 1852.
70.	Sterna melanogaster	Black-bellied Tern	XIX.	May 1867.
71.	Uria Carbo	Kurile Guillemot	IV.	November 1851.

AMMOPERDIX BONHAMI.

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton Imp.

AMMOPERDIX BONHAMI.

Bonham's Sand Partridge.

Caccabis Bonhami, G. R. Gray, Ann. and Mag. Nat. Hist., vol. xi. p. 372.—Gray and Mitch. Gen. of Birds, vol. iii. p. 508, *Caccabis*, sp. 7.
Perdix Bonhami, Fraser in Proc. of Zool. Soc., Part XI. p. 70.—Ib. Zool. Typ., pl. 61.
——— *griseo-gularis*, Brandt, Bull. des Sci. St. Petersb., vol. x. p. 27.

Several individuals of this interesting species of Partridge were procured at Teheran in 1842 by Edward W. Bonham, Esq., H.M. Agent at Tabreez in Persia, and were subsequently presented by that gentleman to the Zoological Society of London, in whose Gardens they lived for some time. The Society has also received a collection of birds from Keith E. Abbott, Esq., obtained by him in the south of Persia, among which is a fine male specimen with a label attached, on which is written "*Teehoo* or Diminutive Partridge of Persia. Shot near Neyruz, 9th Feb. 1850. Abounds in stony dry rocky ground;" and I find a specimen in the collection made by Lord Gifford in Thibet: we have therefore ample evidence that it enjoys a very wide range, and it is very probable that it extends over the whole of Persia, Thibet, and the neighbouring countries.

The species was named almost simultaneously both by Mr. G. R. Gray and Mr. Fraser in honour of the gentleman who first sent it to Europe; Mr. Gray's description, however, has the advantage of a slight priority.

The *Ammoperdix Bonhami* is nearly allied to, but exceeds the *A. Heyi* in size, and the male may always be distinguished from the male of that species by the spotted markings on the sides of the neck: on the other hand, the females of the two species much resemble each other, while they differ very considerably from their respective mates: a marked difference is also observable in the colouring of the legs of the two species; those of *A. Bonhami* being olive, while those of *A. Heyi* are yellow.

Mr. Blyth informs us that "it inhabits rocky places covered here and there with brushwood, feeds much on wild-thyme, is found in coveys, and when sprung rises with a startling noise like the Bush Quails (genus *Perdicula*). Sportsmen reckon it very easy to kill, and it is said to be delicious eating: the name *Seesee* expresses its call. Fine specimens were prepared by Capt. Duncan of the 43rd Regiment of N. I., who also brought living examples from Afghanistaun, and kept one of them alive up to the time of his departure to England in the beginning of 1845."

The male has the general colour isabella brown, numerously banded and freckled with dusky; crown of the head grey; rump and upper tail-coverts speckled with black, the speckles consisting of three small irregular spots down the centre of the apical portion of each feather; forehead and line over the eye deep black; broad line behind the eye white, terminating in rufous; beneath this line another line of black; lores white; throat greyish white; breast delicate grey; on the side of the neck a transverse patch of bluish grey, with numerous oblong spots of white and a few specks of black; flank feathers rufous, isabella brown and white, margined with black; primaries pale brown, all but the first barred on their outer webs with whitish; tail cinnamon, tips paler and freckled with black; bill and nostrils flesh-colour; legs and feet olive.

In the female the black marks of the head in the male are replaced by freckled marks of black and white; the general colouring is more grey; the freckling on the wings larger and more distinct; the marks on the lower part of the back less so; and the flanks light brown conspicuously freckled with black.

The Plate represents the two sexes of the natural size.

AMMOPERDIX HEYI.

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton Imp.

AMMOPERDIX HEYI.

Hey's Sand Partridge.

Perdix Heyii, Temm. Pl. Col. 328, 329.—Jard. Nat. Lib. Orn., vol. iv. Game Birds, p. 91.
Perdix flavirostris, Ehrenb.
Caccabis Heyi, Gray and Mitch. Gen. of Birds, vol. iii. p. 508, *Caccabis*, sp. 6.

This beautiful little Partridge inhabits the extensive plains and rocky districts of Arabia, and doubtless extends its range to the confines of Persia, and there inosculates with the *Ammoperdix Bonhami*. The merit of its discovery is due to M. Hey, the companion of that intrepid traveller Dr. Rüppell; and that of first making it known to science to the veteran ornithologist M. Temminck, who assigned to it the specific name of *Heyi* as a just compliment to its discoverer, and who has published in his "Planches Coloriées" an excellent figure and description of it from specimens killed by M. Hey in the deserts of Acaba in Arabia. As is the case with the *Ammoperdix Bonhami*, the sexes differ considerably in colour, and both species, unlike the true Red-legged Partridges, are destitute of spurs.

Hitherto no living examples have been brought to this country, a circumstance which is to be regretted, since no member of its tribe would form a more interesting addition to our aviaries.

The male has the general plumage deep buff, washed with dark grey on the crown and cheeks; rump, upper tail-coverts and centre tail-feathers sandy buff, pencilled and barred with brown; lateral tail-feathers chestnut; primaries brown, blotched on their outer margins with buff; secondaries and tertiaries pencilled with black; lores and stripe behind the eye white, bordered above and below with a darker tint; breast deep buff; under surface chestnut and white, each feather margined with black; under tail-coverts reddish buff; bill orange; feet olive-yellow.

The female has the entire plumage greyish buff, mottled and pencilled with a lighter hue, and black, and with a wash of reddish buff on the shoulders and back.

The Plate represents the two sexes of the natural size, from fine specimens recently brought from Arabia by Lord Robert Clinton.

MICROPERDIX ERYTHRORHYNCHA.

J.Gould and H.C.Richter del. et lith.

Walter & Cohn, Imp.

3

MICROPERDIX ERYTHRORHYNCHA.

Little Red-billed Partridge.

Coturnix erythrorhyncha, Sykes in Proc. of Com. of Sci. and Corr. of Zool. Soc., part ii. p. 153.—Id. Trans. Zool. Soc., vol. ii. p. 16, pl. 1.—Gray, Zool. Ind., vol. ii. pl. 44. fig. 2.—Gray and Mitch. Gen. of Birds, vol. iii. p. 507, *Coturnix*, sp. 10.—Gray, List of Spec. of Birds in Coll. Brit. Mus., part iii. p. 40.

——— ? *erythrorhyncha*, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 255.

Perdicula erythrorhyncha, Bonap. in Compt. Rend. de l'Acad. des Sci., Mai 12, 1856, tom. lxii.

Perdix erythrorhyncha, Blyth, Journ. Asiat. Soc. Beng., vol. xi. p. 808.

Kokui Lowa of the Hindoos (Jerdon).

Red-bellied or *Black Quail* of the Neilgherries.

The little bird figured in the accompanying Plate may claim the precedence in point of beauty over all the smaller *Gallinaceæ*, its form and contour being especially elegant. It appears to me to be very nearly allied to the *Excalfatoria Chinensis* of China and the little Bush Partridges of Australia, figured in my work on the birds of that country under the generic appellation of *Synoicus*; at the same time it is quite distinct from both those forms. Neither can I for a moment hesitate about separating it from the small Bush Partridges (*Perdiculæ*) of India, with which it has hitherto been associated,—those birds having stout and deeply formed bills, and being clothed in a very different style of plumage; I have therefore made it the type of a new genus—*Microperdix*.

The great peninsula of India is the country in which this bird dwells in a state of nature, and over which it is generally distributed; at the same time it is somewhat local, as will be seen from the following brief notes by Col. Sykes and Mr. Jerdon, which comprise all that is known respecting it.

"This very handsome bird," says Colonel Sykes, "I have never met with out of the valley of Karleh, in the Ghauts, frequenting the same ground as the Black Partridge (*Francolinus pictus*). It is gregarious and abundant."

"This handsomely plumaged Quail," remarks Mr. Jerdon, "is very abundant on the tops of the Neilgherries, frequenting the low brushwood of the woods, and occasionally entering gardens. As it is mentioned by Colonel Sykes and Mr. Elliot, in his Catalogue, it is probably to be found in all the more elevated districts of the Western Ghauts."

The following is Colonel Sykes's description of the two sexes:—

"Male: the bill and legs are red, which colour nearly disappears in dried specimens; the irides are of a brownish yellow-ochre colour; crown velvet-black; the throat is pure white, bounded by a narrow line of black; and a white bar passes across the forehead, and is extended over both eyes to the back of the head; all the upper surface of the body and the breast rich chocolate-brown, studded with lunules of velvet-black; the feathers of the scapularies, wing-coverts and secondaries with large patches of black; a yellow line runs down the shaft, which is crossed by one or two yellow lines; wings reddish brown, spotted and barred with faint chestnut on their outer webs; tail brown, spotted with black, and barred with yellow lines; lower part of the breast, abdomen and vent rufous; each feather of the flanks with a broad spot of black, and with a whitish tip.

"The female differs only in the absence of the black on the head and the white bar across the forehead, the latter being rufous; and in the throat and under surface being pale chestnut, washed with brown on the breast."

The stomachs of those examined by Colonel Sykes were "full of grass-seeds, with a few seeds of *Ervum Lens*."

The Plate represents two males and a female, of the natural size.

PERDICULA ASIATICA.

J.Gould and H.C.Richter del. & lith.

Walter & Cohen, Imp.

PERDICULA ASIATICA.

Asiatic Bush-Quail.

Perdix asiaticus, Lath. Ind. Orn., vol. ii. p. 649.
Asiatic Partridge, Lath. Gen. Syn. Supp., vol. ii. p. 278.—Lath. Gen. Hist., vol. viii. p. 281.
Coturnix rubiginosa, Gray and Mitch. Gen. of Birds, vol. iii. p. 507.
Coturnix Pentah, Sykes, in Proc. of Comm. of Sci. and Corr. of Zool. Soc, part ii. p. 153.—Id. Trans. Zool. Soc., vol. ii. p. 19, pl. 3.—Jerd. Madras Journ. of Lit. and Sci., vol. xii. p. 6.
Perdicula asiatica, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 254.—Adams in Proc. Zool. Soc., part xxvi. p. 504.—Blyth, Ann. & Mag. Nat. Hist., vol. xx. p. 322.
Lowa, Hind, Blyth.

There are no birds more puzzling to the ornithologist than the two species of little Bush-Quails inhabiting India, for which Mr. Blyth has proposed the generic name of *Perdicula*—the variation in their colouring and markings being almost infinite, and running one into the other in such a manner that it is impossible to separate a collection of specimens into their proper species with any degree of certainty; every ornithologist, however, admits that there are two distinct species inhabiting the peninsula of India—one, the *P. asiatica*, being very generally dispersed over the greater part of the country, while the other, *P. argoondah*, occurs in the Madras Presidency and some of the south-western provinces. The males of both species are said to have their breasts strongly crescented with black on a white ground, while the adult female is of a uniform buffy brown; or if the uniformity be broken, it is only by an increase of colour in the gorget. The young during the first year, and probably for a longer period, have their backs mottled and freckled with markings of brown and buff in an infinite variety of forms.

"These birds," says Col. Sykes, speaking of the Bush-Quails of the Dukhun, "are met with only on the mountains, on the slopes and sides of which they rise in coveys from amidst reeds and long grass and brush-wood, with the same startling whirl, uttering cries of alarm, as *C. argoondah*. My specimens were shot at 4000 feet above the sea."

Dr. Adams, on the other hand, states that it "frequents the valleys of the lower ranges of the Western Himalayas, is gregarious and migratory. Its food consists of small seeds, such as mustard. Rises with a quick whirring noise; flies only a short distance, frequently dropping into the nearest bush, where it secretes itself. I have not seen this species on the plains of India."

Mr. Jerdon says, "It is an inhabitant of all the forests of S. India, and also occasionally and more sparingly found in low jungles and wooded nullahs in the Carnatic and other regions. It is found at all levels, from the neighbourhood of the sea to the summits of the lofty mountains of the Western Ghauts."

The following is, I believe, a correct description of the two sexes.

The male has the forehead, a broad stripe over the eye, and the throat-gorget rich reddish chestnut; above the red stripe over the eye a narrower streak of buffy white; through the eye, from the base of the bill, a narrow line of white, and a third narrower line below the eye of the same colour; ear-coverts brown; all the upper surface marbled with light brown, dark brown, and buff, some of the dark markings being in small, others in large blotches, while the paler ones assume the form of streaks, spots, and bars; tail alternately barred with irregular lines of black and rich buff; breast, abdomen, and flanks numerously and alternately barred with black and greyish white; vent, thighs, and under tail-coverts pale rufous; irides dark red; bill slaty black, with a flesh-coloured base; legs red.

The female has the head and throat marked very like that of the male; all the upper surface light brown, minutely freckled with darker brown; the scapularies and tertiaries streaked with buff, and marked with large and conspicuous blotches of brownish black near the tip of the inner web; under surface vinous red; irides, bill, and legs as in the male.

The Plate represents two males and a female, of the size of life.

PERDICULA ARGOONDAH.

J. Gould and H.C. Richter del. et lith.

Walter & Cohn, Imp.

PERDICULA ARGOONDAH.

Argoondah Bush-Quail.

Coturnix Argoondah, Sykes, Proc. of Comm. of Sci. and Corr. of Zool. Soc., part ii. p. 153.—Id. Trans. Zool. Soc., vol. ii. p. 17, pl. 2.—Burg. in Proc. Zool. Soc., part xxiii. p. 31.—Gray and Mitch. Gen. of Birds, vol. iii. p. 507, *Coturnix*, sp. 8.—Jerd. Madras Journ. of Lit. and Sci., vol. xii. p. 6.

Perdix rubiginosa, Valenc. ? (Blyth).

Perdicula Argoondah, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 254, and app. p. 342 (app. to no. 1518).—Id. Ann. and Mag. Nat. Hist., vol. xx. p. 322.—Layard, Ann. and Mag. Nat. Hist., 2nd ser. vol. xiv. p. 107.

Lauwau Partridge, Lath. Gen. Hist., vol. viii. p. 304 (Blyth).

Geerza, Hind, Blyth.

It will be seen by the following extract from Colonel Sykes's paper "On the Quails and Hemipodii of India," published in the second volume of the 'Transactions of the Zoological Society of London,' that the remark I have made in my account of *Perdicula asiatica*, as to the infinite variation in the colouring and markings of the Bush-Quails, is fully borne out by the observations of that gentleman.

"There are so many trifling variations in the markings of the plumage of the upper surface of this bird, that it is difficult to fix upon the exact type. The male is readily distinguished by the numerous transverse narrow black bars upon the breast; but the young males and the females want these bars, and vary so much in the markings on the back, that, with those disposed to manufacture species from plumage alone, the eleven specimens before me, from Dukhan, would furnish at least four new species. The varieties in these eleven specimens consist in the adult male birds being destitute of the black blotches on the upper surface, black bars on the tail, and black tips to the feathers on the back of the neck, but having the tawny bars. One adult male exactly resembles the female, on the upper surface, in the absence of distinct markings, but has a more rufous shade of plumage. A female has faint black bars on the breast. Had these birds come to hand as isolated specimens, they would probably have been considered as distinct species. There is scarcely any difference in the size of the males and females.

"These birds do not frequent cultivated lands, but are found all over Dukhan on the general level of the country, amidst rocks and low bushes; they rise in coveys of from ten to twenty, or more, from under the feet, with a startling suddenness and bustle; and the young sportsman is perplexed in selecting his bird. They are gregarious and, I infer, polygamous, as I never saw them solitary or in pairs. Flesh perfectly white.

"This is the species used for Quail-fights by the natives, and not *Coturnix dactylisonans*, or *C. textilis*."

In the 'Proceedings of the Zoological Society,' Colonel Sykes says that this bird is also found "on the most elevated table-lands and slopes of the mountains, amidst reeds and grass; specimens procured at 4000 feet above the sea."

"This pretty little Quail," says Captain Burgess, "is an inhabitant of stony hills and bushy sides of streams and nullahs. It lives in bevies, and is to be met with in company with the grey and black-breasted Quails. It breeds generally during the months of November and December; but I have had its eggs brought to me as late as March, and have procured a young bird, well fledged, as early as the 20th of November. It does not, I believe, lay more than four eggs, as on three different occasions I have had that number brought to me, and on a fourth, four young ones, just fledged, when out Quail-shooting. They were covered with down, and had the appearance of being powdered. The eggs are of a pale buff colour, $1\frac{1}{10}$th inch in length, by $\frac{8}{10}$ths of an inch in width."

Mr. Layard, speaking of the bird as seen by him in Ceylon, says, "I have only seen one pair of these elegant little Partridges; they were caught alive at Cotta, near Colombo, in Ceylon. I have an egg which can only belong to this bird, also found in the same locality; axis 12 lines, diam. 9 lines. It precisely resembles a diminutive Partridge egg."

The male has the forehead, a broad stripe above the eye, and the throat-gorget rich reddish chestnut; a line along the lores of buffy white; above the red superciliary stripe a second stripe of buffy white, bordered

posteriorly with blotches of black; nape pale brown; all the upper surface pale reddish brown, transversely crossed by numerous irregular bars of blackish brown, and with a small spatulate mark of buff in the centre of the tip of many of the feathers; wing-coverts and scapularies similarly marked, but the buff marks are accompanied by a blotch of black, which is of large size on the feathers nearest the body; primaries brown, barred on the outer web with deep buff; tail barred with deep buff and black; breast and flanks barred alternately with greyish white and black; on the flanks these bars increase in size, and the greyish white is washed with buff; centre of the abdomen buff; irides reddish fuscous; bill black; legs and toes reddish.

The female is similarly marked, but the gorget merges into the vinaceous red of the under surface; and the upper surface is of a darker hue, and destitute of the small spatulate markings of buff.

Another specimen, also said to be a female, has the entire plumage pale vinaceous brown, with the wings and tail minutely and almost indistinctly freckled with brown, in the form of irregular bars.

My figures are supposed to represent the two sexes as above described; but I must observe that the figure and description of the female was taken from a specimen unusually dark in colour, while in most instances the specimens sent to this country as examples of the feminine sex are more uniform, like the second female above described.

The Plate represents the two sexes of the natural size, and a reduced group in various states of colouring.

EXCALFATORIA CHINENSIS.

J.Gould & H.C.Richter del. et lith.

Walter imp.

EXCALFATORIA CHINENSIS.

Chinese Quail.

Tetrao Chinensis, Linn. Syst. Nat., vol. i. p. 277.—Id. Gmel. edit., vol. i. p. 765 —Raffl. in Linn. Trans., vol. xiii. p. 324.

Coturnix Philippensis, Briss. Orn., vol. i. p. 454, sp. 17, tab. 25. fig. i.; (8vo.) vol. i. p. 71.—Bonnat. Tab. Ency. Méth. Orn., part i. p. 223, pl. 96. fig. 3.

Perdix Chinensis, Lath. Ind. Orn., vol. ii. p. 652.

Coturnix excalfatoria, Temm. Hist. Nat. des Pig. et Gall., 8vo, tom. iii. pp. 516, 743.—Shaw, Gen. Zool., vol. xi. p. 371.

Chinese Quail, Lath. Gen. Syn., vol. iv. p. 783.—Edw. Glean., pl. 247.—Lath. Gen. Hist., vol. viii. p. 318.

Coturnix Chinensis, Less. Traité d'Orn., p. 509.—Gray, Gen. of Birds, vol. iii. p. 507, *Coturnix*, sp. 14.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 255.

——— *flavipes*, Blyth, Journ. Asiat. Soc. Bengal, vol. xi. p. 808, female.

Caille des Philippines, Buff. Pl. Enl. 126. fig. 2, female.

Perdix Manillensis, Lath. Ind. Orn., vol. ii. p. 655, female.

Tetrao Manillensis, Gmel. edit. Linn. Syst. Nat., vol. i. p. 764, female.

Petite Caille de Manille, Sonn. edit. Buff. Hist. Nat. des Ois., tom. vii. p. 142.

Coturnix Manillensis, Bonnat. Tab. Ency. Méth. Orn., part i. p. 221, pl. 97. fig. 4.

Manilla Quail, Lath. Gen. Syn., vol. iv. p. 790.—Id. Gen. Hist., vol. viii. p. 321, female.

Excalfatoria Chinensis, Bonap. Tabl. Parall. des Gall., Compt. Rend. de l'Acad. des Sci., tom. xlii. séance du 12 Mai 1856.—Gould in Proc. of Zool. Soc., part xxvii. (1859) p. 129.

Hitherto a much wider range of habitat has been assigned to this beautiful little Quail than it really enjoys; for it has been stated that it inhabits not only China, Assam, Burmah, and many parts of India, but that it is also found in Australia; it will be seen, however, on reference to my Handbook to the birds of that country, that I have separated the Australian species, and indicated the particulars in which it differs from the bird inhabiting the other countries above mentioned. Admitting, then, that the *Excalfatoria Chinensis* is found over the whole of Malasia from China to Madras, its range is still a most extensive one.

Not having had an opportunity of seeing this species in any of its numerous haunts, I am unable to give an account of its habits and economy as the result of my own personal observation. Dr. Jerdon, however, has in a measure supplied this desideratum in his 'Birds of India,' from which I take the liberty of extracting the following passage:—

"This beautiful little Quail is found in many parts of India, but is generally rare, except in Bengal and the adjacent provinces, is more common in Assam, and is very abundant in Burmah. I have killed it once only in the Carnatic; and one specimen is included in my 'Catalogue of Birds from Belgaum, in Western India.' It occurs occasionally in Central India, and in the Upper Provinces as far as Bareilly, but it is rare in all those localities, and perhaps only stragglers find their way so far. In Lower Bengal it is tolerably abundant in damp grassy meadows, the edges of Indigo-fields, and in the grass on roadsides; and in Purneah it was the only Quail I observed. It breeds in the month of July, the eggs being pale olive-green. When the young are full-grown they disperse all over the country; and this dispersion is greatly assisted, and, in many parts, perhaps, caused, by the heavy inundations to which a great part of the country in Bengal is annually subjected, generally in August or September. In the cold season they are replaced by the Grey Quail and the so-called Rain Quail."

To this I may append the following extract from Latham's 'General History of Birds,' coupled with the remark that I suspect he is in error when he says that this species is trained for fighting—a statement which I believe applies to a species of *Turnix*:—

"Inhabits China, the Philippine Islands, and various parts of India; also Java and Sumatra, there called *Pikau*; is often seen in flocks of one hundred together. This bird is used, as well as the Common Quail, to warm the hands in winter, as may be seen in various drawings and paper-hangings from China, where they are called Chau-chin. Many of these are purchased by Europeans to be made into pies on their voyage home, and cost three kandarins a piece. They are said to be caught by means of a call-pipe, as in Europe. Both this and the Common Quail are trained to fight against each other, in the manner of Game-cocks in Europe, and much money is lost and won upon such occasions."

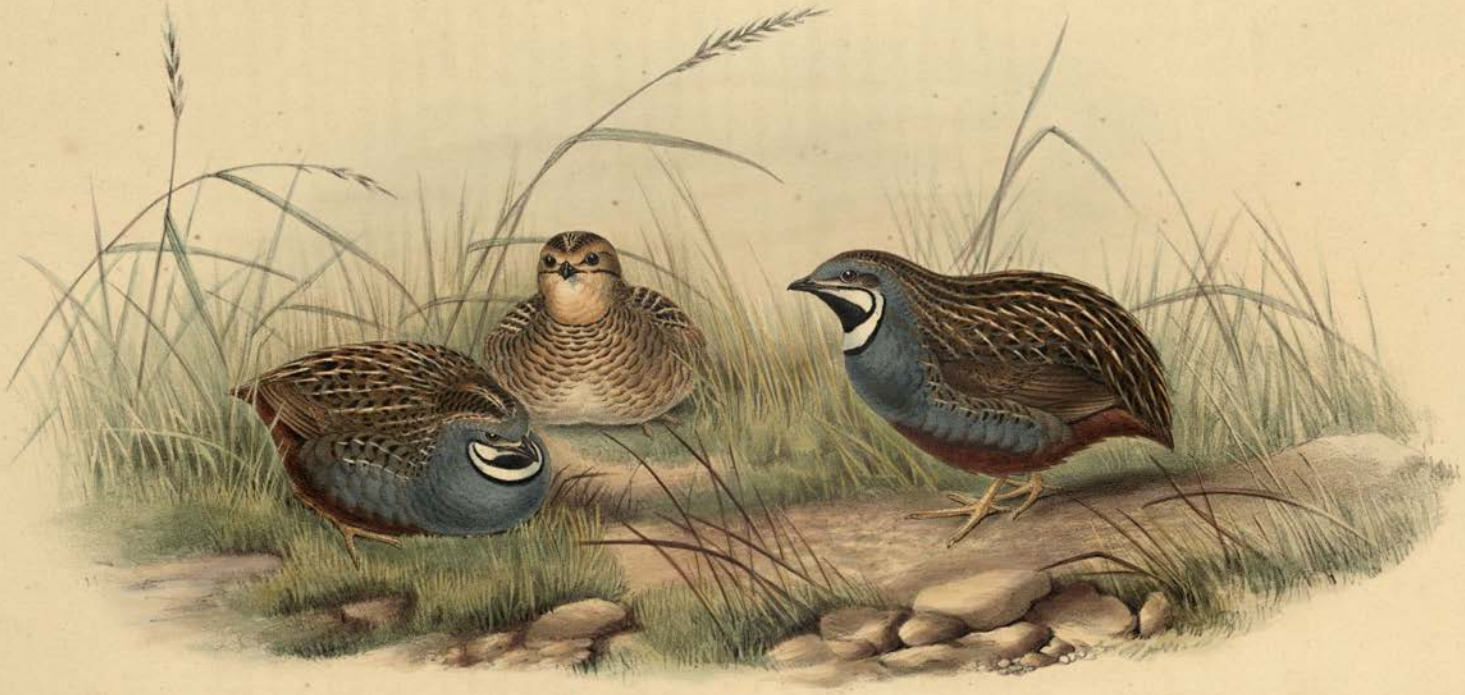
In size this species is somewhat larger than its Australian ally, from which it also differs in the lighter colouring of the back and upper surface; the tarsi, too, are much longer and stouter, and the toes more lengthened.

As is the case with all the other members of the genus, the sexes present a marked difference in their colouring, the female being destitute of those adornments of the head and neck and the deep grey and chestnut of the under surface which render the male so remarkable.

The male has the head and upper surface of an olivaceous brown, with a lighter stripe down the centre of the head; some of the feathers of the back have light-coloured shafts; and nearly all the feathers of the upper surface are crossed near the tip with a band of black, which, being divided by the light-coloured shaft, has the appearance of double spots; these are largest or most conspicuous on the centre of the back and on the feathers of the wings nearest the body; forehead, stripe over the eye and the sides of the neck, breast, and flanks deep bluish grey; chin and throat deep black, within which, beneath each eye, a moustache-like streak of white; below the black, a crescent of white, the points of which are directed upwards behind the eye, encircling this a narrow line of black; centre of the abdomen, vent and under tail-coverts rich deep chestnut-red; tail-feathers mixed chestnut and grey; bill black; irides deep brown; legs bright yellow.

The female is similar in the colouring and markings of the upper surface, but is darker on the head, has the forehead and stripe over the eye buff instead of grey, the chin white (passing into a gorget of buff on the breast), and all the under surface pale buff crossed with numerous crescentic bars of brownish black.

The Plate represents the two sexes of the natural size. The plant is the *Ariopsis peltata*.



EXCALFATORIA MINIMA. *Gould.*

J.Gould & H.C.Richter, del. et lith.

Walter, Imp.

EXCALFACTORIA MINIMA, *Gould.*

Minute Quail.

Excalfactoria minima, Gould in Proc. of Zool. Soc., part xxvii. (1859) p. 128.

The oldest known species of this peculiar form of Gallinaceous birds is the *Tetrao chinensis* of the earlier authors—a species whose range of habitat at least extends from China to the peninsula of India, but not, as was formerly believed, to Australia, the bird there found proving to be distinct and having been characterized by me as such under the specific term of *australis*. A supposed third species, believed to inhabit New Guinea, has, like the Australian bird been named after the country it is said to inhabit. In support of the belief in its existence, I may mention that Mr. Wallace obtained on the island of Gilolo a female (with its egg) which probably is that sex of the New Guinea bird; but it may be the female of a species the male of which is unknown to us. In Africa, a bird of this form occurs which is quite distinct from the others, and which has been named *Adansoni* by M. Verreaux. These are all very closely allied to *Coturnix* on the one hand, and *Synoicus* on the other, but, in my opinion, have been very properly separated from both under the generic title of *Excalfactoria*, which will doubtless be hereafter retained for them.

On comparing the bird represented on the accompanying Plate, of which Mr. Wallace brought several specimens from Macassar, with the other members of the genus, it was found to be so very different that I had no alternative but to regard it as distinct; and I therefore assigned to it the specific name of *minima* as expressive of its diminutive size. It is, in fact, the very smallest of the Gallinaceæ that has yet been discovered; at the same time it is very similar in its general contour and markings to the other *Excalfactoriæ*.

The male has the forehead and sides of the head grey; crown of the head, all the upper surface, and wing-coverts reddish brown, conspicuously spotted and minutely freckled with brownish black; a line of buff down the crown and nape, and a narrow line of brownish white down the centre of the feathers of the upper surface, changing to broad conspicuous stripes of buff on the lower part of the back and tail-coverts; wings pale brown; chin and throat black, within which on each side is an oblong patch of white; below the black a broad crescent of white, fringed on the sides with black, and bounded below by a narrow semicrescent of deep black; under surface grey, spotted on the flanks like the upper surface; line down the centre of the abdomen, thighs and under tail-coverts chestnut-red; bill black; feet yellowish.

The female is very similar in the colouring and markings of the upper surface, but has the forehead and stripe over the eye buff; the chin creamy white, gradually deepening into a gorget of buff on the breast; the remainder of the under surface pale buff, each feather crossed by three or four narrow, somewhat curved bars of brownish black.

The Plate represents the two sexes, of the natural size.

MALACOTURNIX SUPERCILIOSUS.

J.Gould & H.C.Richter, del. et lith.

Walter, Imp.

MALACOTURNIX SUPERCILIOSUS.

Slate-coloured Partridge.

Rollulus superciliosus, J. E. Gray, Knowsley Menagerie, p. 8, pl. xvi.
Malacoturnix, Blyth in Proc. of Zool. Soc., May 1867, p. 475.
Malacortyx superciliaris, Blyth in Ibis, July 1867, p. 313.

It gives me great pleasure to figure, in the 'Birds of Asia,' both sexes of this highly curious member of the *Gallinaceæ*—a bird which is, I believe, only known by two specimens in the Derby Museum at Liverpool, and an example in the British Museum, to which establishment it was presented by Col. L'Estrange. When the bird was figured in the first part of the late Earl of Derby's 'Knowsley Menagerie,' its native country was unknown; and from that date, 1846, no other example had been recorded until Mr. Blyth exhibited Col. L'Estrange's specimen at the Meeting of the Zoological Society on the 8th of May, 1867.

"Of this fine species," says Mr. Blyth, "heretofore only known from a pair, male and female, in the Derby Museum at Liverpool, which were said to have been brought from India, two examples were shot from a flock passing overhead in the vicinity of Massooree in unusually cold weather, one of which was given to Col. L'Estrange, of the Royal Artillery, who kindly submitted the specimen to my inspection. At the present time so fine a species is quite an unexpected addition to the list of Indian game-birds."

This species, the sexes of which differ very considerably in their colouring, appears to me to offer a close alliance to *Ammoperdix*.

I cannot close this meagre account without expressing my thanks to the Trustees of the Derby Museum at Liverpool, and to Mr. T. J. Moore, their Curator, for the loan of the late Earl of Derby's original specimens, the possession of which testifies to the scientific value of the fine collection bequeathed to that town by their estimable donor. Were additional means requisite for handing down to posterity the name of the 13th Earl of Derby as that of a nobleman who ever took the greatest interest in zoological science, I know no other bird so likely to answer the purpose as the present one, since it is to him that we are indebted for the first knowledge of its existence.

Male.—Lores, chin, throat, and sides of the face and ear-coverts deep black; forehead, a broad stripe above and behind the eye silvery grey, each feather on the forehead with a still lighter shaft, above the light stripe a second one of black, the centre of the hinder part of the head and nape light greyish brown; upper surface, tail, and under surface olive, tinged with grey on the breast and abdomen, all the feathers of both surfaces margined on each side with a line of black; under tail-coverts black, every feather with a small tooth-like mark of white on each side near the base, a similar but larger mark about two-thirds from the base, and two coalescing oval spots of white at the tips; bill reddish; tarsi brown. Total length 9 inches; bill $\frac{5}{8}$, wing $3\frac{1}{2}$, tail $2\frac{3}{4}$, tarsi $1\frac{1}{8}$.

Female.—General hue cinnamon-brown, with a rufous edging to each feather; those of the upper surface with light-coloured shafts and a triangular mark of dull black on the inner web near the tip, preceded by a small mark of the same hue as the shafts; on the under surface the dark mark occupies the centre of the tip of each feather, and is of a lanceolate form; the throat is pale greyish cinnamon, as is also the head, where there is an indication of the superciliary stripe seen in the male, the feathers of the crown and behind the eye being somewhat greyer than the others, and having polished shafts; on each side of the nape a dark stripe as in the male; tail irregularly barred with black; under tail-coverts dark cinnamon, with a stripe of black in the centre, between which and the margin is a stripe on each side, which unites with a large patch of the same hue near the tip.

The figures are of the size of life.

COTURNIX COROMANDELICA.

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton Imp.

COTURNIX COROMANDELICA.

Coromandel Quail.

Tetrao Coromandelicus, Gmel. Edit. Linn. Syst. Nat. tom. i. par. ii. p. 764.
La Petite Caille de Gingi, Sonn. Voy. aux Indes, tom. ii. p. 172.
Coromandel Quail, Lath. Gen. Syn. vol. iv. p. 789.—Ib. Gen. Hist. vol. viii. p. 310.
Perdix Coromandelica, Lath. Ind. Orn. vol. ii. p. 654.
Coturnix textilis, Temm. Hist. Nat. des Gall. tom. iii. pp. 512 & 742.—Ib. Pl. Col. 35.—Less. Traité d'Orn. p. 509, Atlas, pl. 90. fig. 1.—Sykes in Proc. of Comm. of Sci. and Corr. of Zool. Soc. part ii. p. 153.
——— *Coromandelica*, Bonnat. et Vieill. Ency. Méth. Orn. part i. p. 221.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 255.—Gray, List of Birds in Brit. Mus. Coll. part iii. p. 38.—Gray and Mitch. Gen. of Birds, vol. iii. p. 507, *Coturnix*, sp. 3.—Frankl. in Proc. of Comm. of Sci. and Corr. of Zool. Soc. part i. p. 123.
Caille de la Côte de Coromandel, Sonn. Edit. Buff. Hist. des Ois. tom. vii. p. 140.
Perdix olivacea, Buchanan, Frankl. in Proc. of Comm. of Sci. and Corr. of Zool. Soc. part i. p. 123.
Coturnix textilis? v. *pluvialis*, Gray, Zool. Misc. p. 85.
Coturnix Coromandelicus, Gray, Cat. of Spec. and Draw. of Mamm. and Birds presented to Brit. Mus. by B. H. Hodgson, Esq., p. 128.
Rain Quail, of Indian Sportsmen.

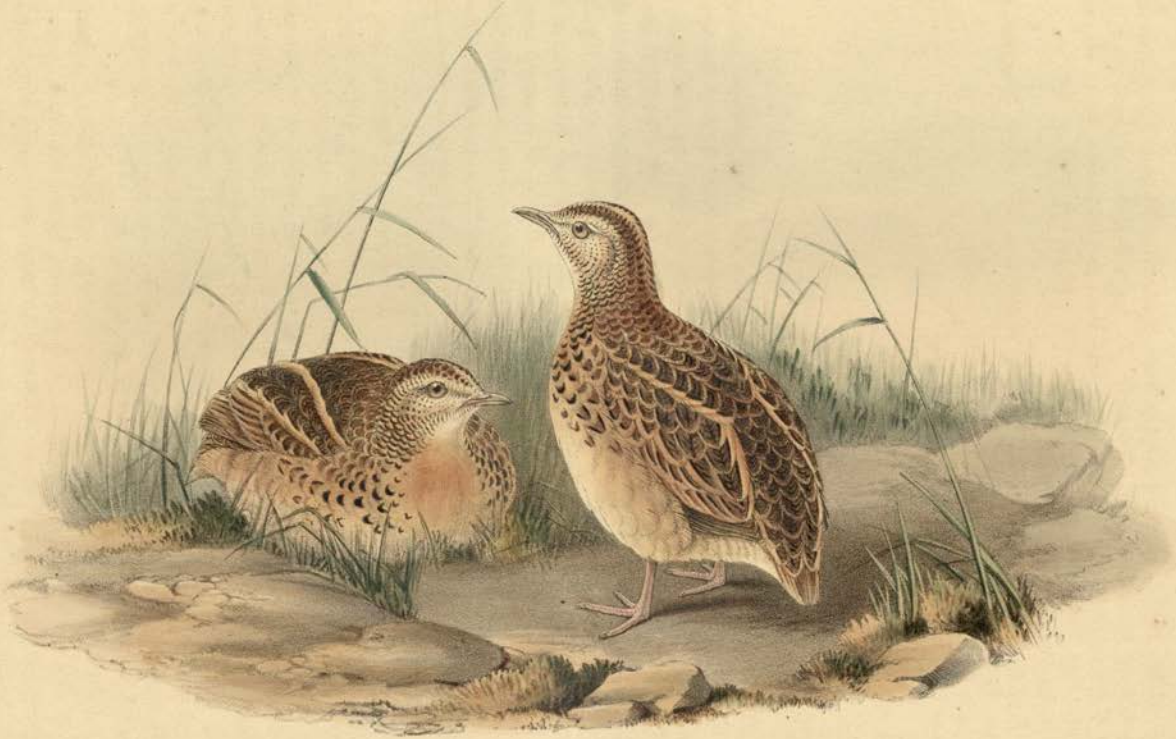
This is in every respect a true Quail, or typical *Coturnix*; its native country is India, over every part of which it is dispersed, with the exception of the Himalayas, which do not offer it a congenial habitat. It does not appear to possess the great migratory powers of the common species, but to be stationary in all parts of India; it is about half the size of the European bird, and is rendered remarkably different from that and all the other members of the genus by the singular markings of the face and the black colouring of its chest. It is a handsome little bird, and its flesh is said to be equally palatable as that of its European prototype. Major Franklin states that it is called *Bhuteir*, and that it is the most common Quail of India; and Colonel Sykes, who met with it in pairs during the monsoon, informs us that it is gregarious during the remainder of the year, and very abundant in the *Jowaree* fields (*Andropogon Sorghum*).

Mr. Jerdon says, "This pretty little species is very common in most of the well-cultivated districts of India, frequenting the fields in bevies, and also patches of grass in various situations, and low jungle. It breeds during the monsoon: many natives consider it the male of the common species."

The male has the head brown, with a conspicuous streak of buff down the centre; above the eye a streak of buffy white, commencing at the forehead and extending to the nape; a brown line from the lores through the eye to the ear; a small streak of brown from the angle of the mouth; face and throat creamy white, bounded below by a crescent of black, some distance within which is another crescent of the same hue, united to a broad mark of black passing down the centre of the throat; feathers of the shoulders, upper surface, scapularies, rump and tail-feathers brown, largely blotched with black, freckled and narrowly banded with buff, the buff bands bordered with black; all the feathers with a conspicuous streak of pale buff down the centre; wings pale brown, freckled with pale buff; sides of the breast sandy buff, with a narrow whitish line down the centre of the tip; breast black, streaked with buffy white; flanks sandy buff, streaked with black, bounded on each side with white; abdomen and under tail-coverts buffy white, the former conspicuously streaked with black; irides reddish brown; bill, legs and feet olive-brown.

The colouring of the female is very similar to that of the male, but the black and buff markings of the upper surface are larger and less elegant in appearance; there is only an indication of the markings so conspicuous on the throat, and the under surface is sandy buff, deepest on the breast, where it is also streaked with whitish and spotted with black; the flanks also are not so regularly marked as in the male, the feathers being mottled rather than streaked with buff, black and whitish.

The Plate represents two males and a female of the natural size.



TURNIX DUSSUMIERI. *Temm.*

J.Gould & H.C.Richter, del. et lith.

Walter Imp.

TURNIX DUSSUMIERI, *Temm.*

Little Hemipode.

Hemipodius Dussumieri, Temm. Pl. Col. 454. fig. 2.—Sykes, Proc. of Comm. of Sci. and Corr. of Zool. Soc., part ii. p. 155.—Id. Beng. Sport. Mag., 1836, pl. i. fig. 5.—Id. Trans. Zool. Soc. of Lond., vol. ii. p. 23.

Turnix Dussumieri, G. R. Gray, List of Spec. of Birds in Coll. Brit. Mus., part iii. *Gallinæ*, &c., p. 41.—Id. part v. *Gallinæ*, p. 67.—Jerd. Birds of India, vol. ii. part ii. p. 599.—Blyth, Ibis, 1867, p. 161.

Hemipodius variabilis, Hodgs. Beng. Sport. Mag., 1837, p. 345.

Turnix Sykesi, Smith, Zool. of S. Africa.—Jerd. Birds of Ind., vol. ii. part ii. p. 600.—Blyth, Ibis, 1867, p. 161.

Dabki of some Hindoos, *Tura* of others.

Chininaj of the Hindoos at Muttra.

Libbia of the Hindoos at Purneah.

Tata battera in Scinde.

Chinna, tella, or *pedda daba gunalu,* in Telegu.

This little Turnix has been for a long time a sad puzzle to ornithologists, and much confusion consequently exists respecting its synonymy. Mr. Blyth is, I believe, convinced that there is only one species of these little Button-Quails, as they are called by many Indian sportsman, and that the birds named *Turnix Dussumieri* and *T. Sykesi* are identical; and I may remark that I have never seen a bird with characters sufficiently different to induce me to regard them as otherwise. Probably the great variation in the size and colouring of the sexes may have been the cause of Dr. Smith and Mr. Jerdon considering them to constitute two species. Colonel Sykes, in his valuable paper "On the Quails and Hemipodii of India" published in the second volume of the 'Transactions of the Zoological Society of London,' states that the *Turnix Dussumieri* "affects short grass and fields of pulse of *Dolichos biflorus*, *Phaseolus max*, and *Ervum lens*," that he "never found the bird otherwise than solitary," and that "it is so difficult to flush that it not unfrequently rises from beneath the feet; and when on the wing its flight is so abrupt, angular, and short that it is generally down ere the gun is well up to the shoulder."

This "Button-Quail," as it is called by sportsmen in India, says Mr. Jerdon, "is found in open grassy glades in forests or jungles, both on the plains and more especially in hilly districts, and is also found in grass jungles throughout Bengal and the countries to the eastward. It occurs throughout India in suitable localities, is rare in the bare Deccan and North-western Provinces, and is not uncommon in open glades of the upland districts of Malabar, in the Eastern Ghats, and in lower Bengal. It is always seen singly, in patches of long grass, cornfields, and wherever there is thick herbage. It is flushed with great difficulty, often, getting up at your very feet, flies but a few yards, and drops down again into the grass, not to be re-flushed but after a most laborious search, and sometimes allowing itself to be caught by the hand or by a dog. Its name of *Dabki*, signifying 'squatter,' is given from this habit. It emits a low plaintive moan of a single note. I regret that I know nothing of its habits as to breeding, &c."

Feathers of the crown light brown, with dark margins; line over the eye and the ear-coverts light fulvous; back of the neck bright rust-red; upper surface reddish brown, barred with dark brown, these bars being most conspicuous on the lower part of the back and the rump; scapularies, and some of the contiguous back-feathers margined with yellowish cream-colour; wing-coverts pale sandy brown, with a black spot near the pale-yellowish-margined tip; primaries dark brown, narrowly margined with yellowish white; chin and upper part of the throat white, remainder of the under surface rusty red, richest on the upper half of the abdomen and the breast; bill yellow; irides yellowish white; legs and feet deep yellow.

The plate represents the two sexes of the size of life.

TURNIX FASCIATUS.

J. Gould and H.C. Richter del. et lith.

Edmund & J. Walton, Imp.

TURNIX FASCIATUS, *Temm.*

Fasciated Hemipode.

Hemipodius fasciatus, Temm. Hist. Nat. Gén. des Pig. et des Gall., tom. iii. pp. 634 and 757.
Turnix fasciatus, Gray and Mitch. Gen. of Birds, vol. iii. p. 511, *Turnix*, sp. 14.
——— *fasciata*, Bonap. Tab. Parall. de l'Ordre des Gallinacés in Compt. Rend. de l'Acad. des Sci., tom. xlii. Mai 12, 1856.

Mr. Wallace has sent several examples of a species of *Turnix* from Macassar, which I have but little doubt are referable to the *Hemipodius fasciatus* of Temminck, who states that he took his description from a specimen in the Paris Museum, which was said to have been received from the Philippine Islands, and which up to the present moment has remained unique; the acquisition then of additional examples of this rare bird by Mr. Wallace is a further evidence of the great service his explorations have rendered to the cause of ornithological science.

As no figure of the bird has been previously published either in this country or on the continent, I trust some interest will attach to those here given, which represent both sexes of the size of life, or perhaps a trifle smaller.

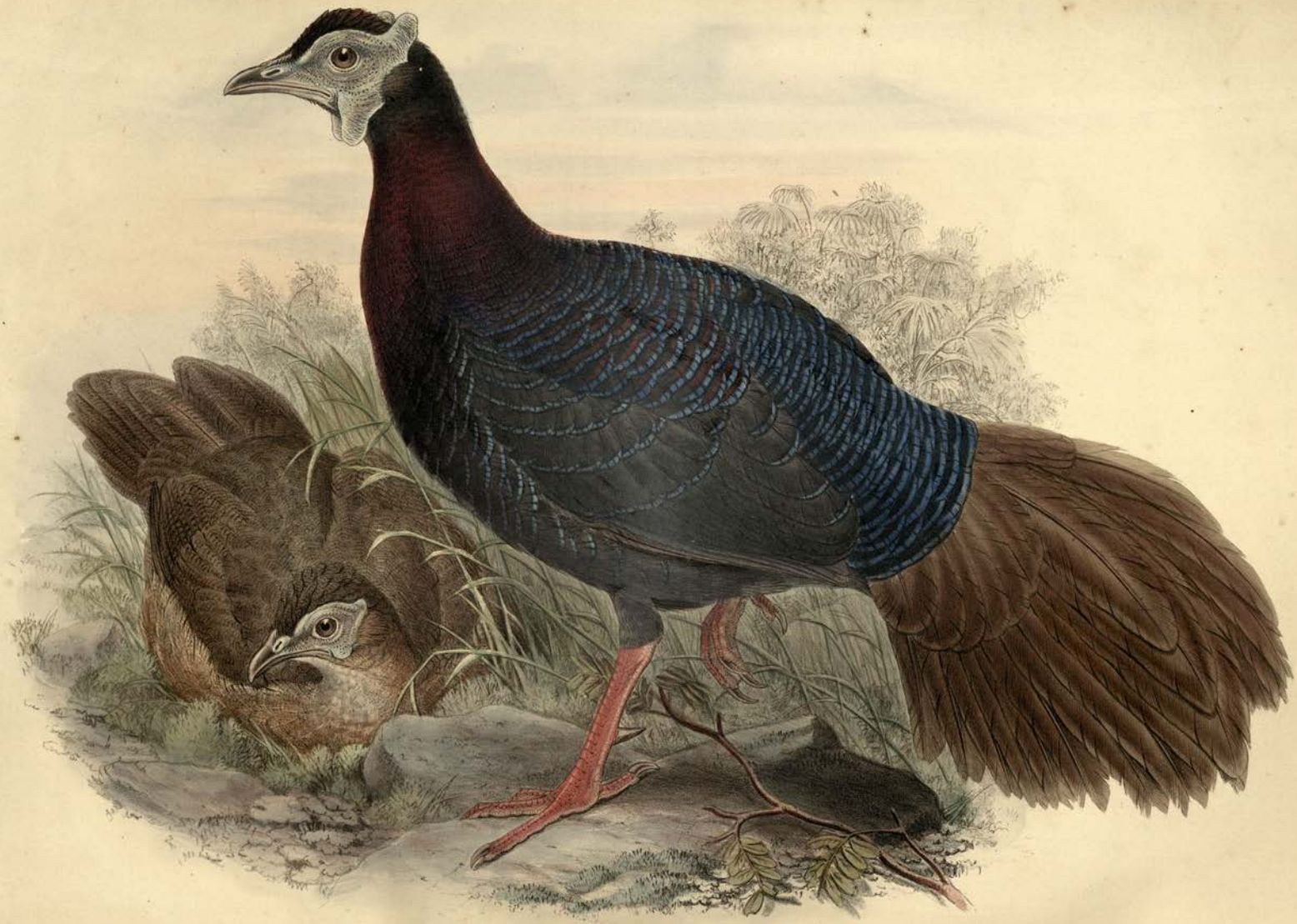
The sexes present the usual difference in the smaller size of the male, but, contrary to the general rule with regard to this group of birds, are very similarly coloured.

Specimens of both sexes, procured by Mr. Wallace, are contained in the National Collection and in my own.

The male has the head mottled with black and brown, and a line of buffy white down the centre; face buffy white speckled with black; back light reddish brown, gradually passing into deep rust-red on the lower part, rump, and upper tail-coverts; a few of the feathers of the upper part of the back with a crescent of black, succeeded by another of buffy white at the tip; the lower or redder part rayed transversely with black; wings brown, each of the coverts with a large spot of black near the tip, and tipped with buffy white; primaries edged, and secondaries mottled and edged on their external webs with pale reddish brown; chin buff; neck, breast, and upper half of the flanks crossed by numerous fasciæ of buffy white and black, which increase in size as they descend from the throat; centre of the abdomen buff; lower half of the flanks, vent, thighs, and under tail-coverts sandy red; bill and feet greenish yellow.

In the female the general arrangement of the colours is very similar, but the forehead and sides of the head are much darker, approaching to black, and these black feathers are tipped with white, forming a mottled line over each eye; the line down the centre of the head is grey; the markings of the wings are bolder, and the fasciæ which commence on the chin are narrower and more numerous.

The Plate represents the two sexes about the size of life.



LOBIOPHASIS CASTANEICAUDATUS, *Sharpe*

LOBIOPHASIS CASTANEICAUDATUS, *Sharpe.*

Chestnut-tailed Lobed Pheasant.

Lobiophasis castaneicaudatus, Sharpe, Proceedings of the Zoological Society, 1877, p. 94.

That a second species of *Lobiophasis* might occur in Borneo seemed to me always probable; but I scarcely expected that this would so soon become a reality. We are indebted for its discovery to His Excellency Mr. H. T. Ussher, one of our most enlightened colonial governors; and scientific men have not been disappointed in their hope that he would continue in Borneo the excellent work which he had done in Western Africa. The present species has been sent from the Lawas river, situated in north-western Borneo, opposite Labuan. From the fact that Bulwer's Pheasant comes from the same locality, Mr. Bowdler Sharpe, in describing this new species, suggests that it may be only *L. bulweri* in its second year's plumage. This seems to me highly improbable. There is nothing about the specimen, which I have carefully examined, to indicate immaturity, the well-formed spurs and the completeness of the plumage appearing to me to be signs of a fully adult male Pheasant. When we consider, too, the way in which the members of the genus *Euplocamus* are distributed in the Himalayas, each species so closely allied, yet possessing a distinct habitat, we cease to wonder at the probability of two species of *Lobiophasis* being found side by side on the mountains which boader the Lawas river.

The following description is taken from the original specimens:—

"*Male.* Crown of head somewhat crested, dark chestnut brown; sides of face bare, as well as small pendent lobe at the gape; hind neck purplish brown; throat scantily clothed with dull brown plumes; lower throat, chest, and neck all round rich maroon, the plumes of the hinder part and sides of the neck narrowly tipped with metallic steel-blue; back blackish, all the feathers with a metallic steel-blue tip, with a subterminal shade of velvety black, some of the dorsal plumes subterminally maroon; rump and upper tail-coverts black, edged with dull metallic steel-blue; tail chestnut; wing-coverts black, with metallic steel-blue tips; quills black, the primaries browner; breast and abdomen blackish brown, the sides of the breast slightly washed with metallic purple; inner lining of wings ashy black. Total length 22 inches, culmen 1·6, wing 11, tail 7·5, tarsus 3·35.

"*Female.* General colour above brown, strongly washed with lighter or ochraceous brown, the whole upper surface coarsely vermiculated with blackish wavy lines, the wing-coverts rather more rufous and waved in the same manner as the back; quills blackish, coarsely vermiculated with deep ochre, the primaries only on the outer web, the secondaries on both, but less distinctly on the inner one; tail deep chestnut, with obscure wavy vermiculations of black; sides of face and lower throat sandy brown, with narrow mesial streaks of fulvous; throat ashy fulvous; under surface of body deep ochraceous brown, brighter on the fore neck and chest, everywhere minutely vermiculated with black, the feathers sheathed down the centre with ochre; the centre of the abdomen dusky brown; inner lining of quills ashy blackish. Total length 20 inches, wing 11, tail 7·5, tarsus 3·15."

The birds are represented in the Plate about four fifths the natural size.

LOBIOPHASIS BULWERI, *Sharpe*.

J.Wolf and Hart. del. et lith.

Walter Imp.

LOBIOPHASIS BULWERI, *Sharpe*.

Bulwer's Pheasant.

Lobiophasis Bulweri, Sharpe, Ann. N. H. 1874, 4th series, vol. xiv. p. 373.

Numerous as have been the valuable acquisitions rendered to ornithology during the last few years by the opening up of the great countries of China, Yunan, and the vast territories lying between our Indian frontier and the Celestial Empire, there has not been one fraught with greater interest than the fine Pheasant figured in the accompanying Plate.

This beautiful bird is a native of Borneo; and at first sight it might seem as if it might have been kept in one or other of the numerous genera of gallinaceous birds. It might be considered closely allied to the *Euplocamus Swinhoei* or the lovely *Diardigallus prælatus*; but on closer examination it will be found to differ not only from these birds, but from every other form of Pheasant yet discovered; and I quite agree with Mr. Sharpe, who has had the honour of describing this magnificent species, that its generic separation was necessary.

Its chief peculiarity lies in its naked face, its fleshy horns, and peculiar pendent wattles. Its tail also exhibits characters which will at once separate it from all other known Phasianine forms, for the number of tail-feathers and the curious denuded shafts of the outer ones render this, again, very different from that of any other game-bird. That it is a graceful as well as a very curious species is evident from its slender form and thinly built legs, which, being bright red in colour, contrast strongly with its blue face and ornamental wattles.

At present only a single example of this rare bird has been discovered; and it seems to me strange that such a large and remarkable species should not have been sent home before, particularly as for the last fifty years Borneo has been visited by so many collectors. Mr. Wallace never seems to have heard of the existence of such a Pheasant in Borneo; but it is just possible that the bird mentioned to the Marquis Doria as being found in Borneo (*cf.* Salvad. Ucc. Born. p. 306) was, after all, this new Pheasant.

The following is Mr. Sharpe's original description:—"Above brown, all the feathers terminally margined with metallic purple, of a harsh texture; the neck-hackles similarly coloured; but here, owing to the individual plumes being divided, the general appearance of the metallic colouring is more spotted than on the back and upper tail-coverts, where the terminal metallic margins produce a somewhat barred appearance; wing-coverts uniform with the back, and having the same metallic spots; quills light brown, the outer primary with a pale whity-brown margin; the secondaries darker, and the innermost terminally margined with the same metallic colour as the back; lower back and rump-feathers uniform with rest of back, but the greater upper tail-coverts white, like the whole of the tail; head bare, with a large horn or wattle on each side of the occiput, and with a long pendent wattle on each side of the throat; round the hind neck a collar of dull maroon, all the feathers obscurely margined with metallic purple; chest also dull maroon, similarly obscured by purplish margins, which become broader and more distinct on the breast, which is black like the rest of the under surface, the metallic margins disappearing on the flanks and abdomen; under wing-coverts also dull brown, like the inner margin of the wing.

"Total length 28 inches, wing 11·5, tail 16·5, tarsus 3·4, pendent lobes 1·25.

"*Hab.* Mountains of Lanos, Northern Borneo.

"The unique specimen from which the above description has been taken has been presented to the Trustees of the British Museum by His Excellency H. E. Bulwer, C.M.G., Governor of Labuan. The wattles and ornaments on the face are stated to have been bright ultramarine in life."

To give an idea of the size of this fine creature I must inform my readers that the figure in the Plate is not more than two thirds the size of life. It has been drawn from the unique type in the British Museum, to the authorities of which I am indebted for the temporary loan of the specimen, which has enabled me to prepare the accompanying Plate from the talented pencil of Mr. Wolf.

EUPLOCAMUS LINEATUS.

EUPLOCAMUS LINEATUS, *Vigors.*

Lineated Pheasant.

Lophophorus Cuvieri, Temm. Pl. Col., v. pl. 1 (1820, hybrid).
Lineated Pheasant, Lath. Gen. Hist. B., viii. p. 201.
Phasianus lineatus, Vigors, P. Z. S., 1831, p. 24 (ex Lath. MS.).—Jerdon, B. Ind., iii. p. 531.—Beavan, Ibis, 1868, p. 381.
Gennæus lineatus, Wagler, Isis, 1832, p. 1228.
Phasianus Reynaudi, Lesson, in Bélanger, Voy. Ind. Orient. Zool., p. 276, pls. 8, 9.
Phasianus fasciatus, M'Clell. Calcutta Journ. N. H., ii. p. 146, pl. 3.
Lophophorus leucomelas, Gray, List of Genera, 1840, p. 60.
Alectrophasis leucomelanos, Gray, List of Genera, 1841, p. 78.
Gallophasis fasciatus, Gray, Gen. B., iii. p. 498.
Euplocamus lineatus, Gray, List of Genera, p. 78.—Blyth, Cat. B. Mus. A. S. B., p. 244.—Sclater, P. Z. S., 1863, p. 120.—Id. text to Wolf's Zool. Sketches, 2nd ser. pl. 38.—Blyth, Ibis, 1867, p. 153.—Gray, List of Gallinæ, p. 34.—Gray, Hand-l. B., ii. p. 260.—Elliot, Monogr. Phasian., ii. pl. xxxiii.
Grammatoptilus lineatus, Reichenb. Syst. Av., p. 30.

If there is one species more than another which unites the two sections of the genus *Euplocamus* (that is to say the Kaleeges) with the Silver Pheasant, it is the present bird. The largely developed facial wattle, the finely pencilled plumage extending over the whole upper surface, and the form of the tail incline it to the Silver Pheasant (*Gallophasis nycthemerus*); but then the latter species and its immediate allies are distinguished by their bright red legs, while in the present bird they are bluish grey. This may seem to many a character of slight importance; but to my mind it is not so, for I find the colour of the legs in these Pheasants of great differential value. Those who know our Silver Pheasant, the beautiful *Euplocamus Swinhoei*, or its elegant congener *E. prælatus*, and the still more curious *Lobiophasis Bulweri*, will remember that all these birds have delicate legs of a bright red colour, whereas the present bird and all the Kaleeges have them dark-coloured. I lay the greater stress on this point because Mr. Elliot, in his noble monograph of the family, has given bright red legs to *E. albocristatus*; but this must be an oversight, for I find that Dr. Jerdon gives them as "dark horny," which accords with my own experience. Again, in the description of the present species, he gives the legs as red, whereas they are figured brown in the plate; and that the latter is correct will be found on a reference to Wolf's plate in the 'Zoological Sketches,' taken from the living bird.

As is the case with most of the members of the genus *Euplocamus*, of which allied species interbreed on the confines of their respective ranges, the Lineated Pheasant is often found crossed with *E. Horsfieldi*; and were hybrids to be noticed, it would stand as *Euplocamus Cuvieri*, as our first notice of the species was in 1820, when Temminck figured a hybrid specimen. Concerning this I may with advantage quote Mr. Blyth's remarks:—

"The *Lophophorus Cuvieri* represents one of the hybrid races referred to, between *Gallophasis lineatus* and *G. Horsfieldi*. These completely pass one into the other in the province of Arakan, whence some living specimens have been received by the Zoological Society. In like manner *G. albocristatus* and *G. melanonotus* interbreed in the intermediate province of Nipâl, *G. melanonotus* being the species inhabiting Sikkim and Butan, where most assuredly *G. lineatus* is unknown, the latter inhabiting southward of the range of *G. Horsfieldi*, *i. e.* in Pegu and the Tenasserim provinces, where I have personally observed it in the forests."

Captain Beavan writes as follows:—"Dr. Jerdon mentions the singular drumming noise made by the male. With respect to *Euplocamus lineatus*, which is, in my opinion, a true Kalleege, I may mention that the Burmese take advantage of this habit of the birds, and by imitating it with a rough kind of machine catch numbers of the latter species. It is like the crow of a cock, a kind of challenge uttered by one male to excite another to a battle—'in defiance of his fellows.'"

Mr. Elliot further observes:—"Mr. Blyth informs me that the natives snare a cock bird of this species, and secure him near the jungles, when his cries serve to bring the males who may be within hearing into the open, looking for their antagonist, whom they immediately attack, thus giving the concealed gunner an opportunity to shoot them; and in this way many birds are obtained. Of course it is only the cocks which are procured, the hens never paying any attention to the crowing, but remaining quietly in the forest."

The following descriptions are transcribed from Mr. Elliot's 'Monograph':—

"*Male.*—Head with a long occipital black crest. Rest of head, neck, and entire upper parts black, finely vermiculated with white. Inner web of middle tail-feathers buff; outer black, crossed with white zigzag lines; rest of tail-feathers black, with diagonal white lines. Primaries brown, crossed with fine white lines. Breast and underparts bluish black. Centre of flank-feathers white. Bare skin of face red.

"*Female.*—Head and occipital crest dark brown, mottled with light brown; neck and upper part of back light brown, with V-shaped white marks near the end of the feathers, divided from the brown edges by a line of black; rest of back, wings, and upper tail-coverts greyish brown, finely mottled with blackish brown. Chin whitish brown. Breast and flanks rufous brown; shafts and centre of feathers white, with black lines around their edges. Abdomen and rest of parts black, the feathers tipped with chestnut. Central tail-feathers buff, mottled with black on inner webs; remainder black, irregularly crossed with white lines. Bill: upper mandible black, lower horn-colour. Feet lead-colour."

The Plate represents the male and female of this Pheasant, of about three quarters of the natural size.

EUPLOCOMUS VIEILLOTI, *G.R.Gray.*

J.Wolf and H.C.Richter, del. et lith.

Hullmandel & Walton, Imp.

EUPLOCOMUS VIEILLOTI, *G. R. Gray.*

Vieillot's Fireback.

Gallus ignitus, Vieill. Gal. des Ois., t. 207.
Phasianus ignitus, Vieill. Ency. Méth. Orn., Part I. p. 363. pl. 237. fig. 2.
Euplocomus ignitus, Gray, Ill. Ind. Zool., vol. ii. pl. 39.
Gallophasis Vieilloti, Gray and Mitch. Gen. of Birds, vol. iii. p. 498, *Gallophasis*, sp. 2.
Euplocomus Vieilloti, G. R. Gray, List of Birds in Coll. Brit. Mus., Part III. p. 26.

Mr. G. R. Gray has, in my opinion, very properly separated this fine bird from the *Gallus ignitus* of authors, and assigned to it the specific name of *Vieilloti*, as no two birds can well be more distinct; the *ignitus* having the abdomen and back rich chestnut, with half of the central tail-feathers brown; while, as will be seen on reference to the accompanying Plate, the same parts in the present bird are very differently coloured. The native country of the *E. Vieilloti* is the Peninsula of Malacca, Sumatra, and the Indian Archipelago. The fine aviary of the late Earl of Derby formerly contained living examples of both sexes of this fine bird, and I believe his Lordship succeeded in rearing a brood from them; but owing to the want of a congenial climate, or from some other cause, the race was not perpetuated. A like opportunity has not yet been afforded to the Zoological Society, whose Gardens in the Regent's Park have hitherto only been graced by the male; a fine example of which now (September 1852) forms part of the collection, is apparently in the best possible state of health, and is the individual figured on the opposite Plate. At the period just prior to the breeding season, this species appears to be subject to influences of a more strongly exciting kind than is observable in any other of the Gallinaceæ: not only is it restless in the highest degree, and spirited and exalted in its carriage, but the carunculations surrounding the eye are developed to an extraordinary extent, covering the entire face, extending upwards far above the crown of the head, and descending equally below, the colour being a delicate cærulean blue, in the centre of which is set a full eye of the brightest scarlet. Let us hope that the time will not be long before other examples of this fine bird will be added to the Society's already rich collection, and that a successful result will attend their breeding; for a finer or more ornamental bird for our aviaries could scarcely be found.

As will be seen, a very marked difference occurs in the colours of the sexes.

The male has the crest, neck, upper part of the back and breast deep steel-blue; wing-coverts and feathers on the centre of the back black, passing into greenish steel-blue, forming a conspicuous shining crescent at the tip of each feather; lower part of the rump rich deep shining red; wings very dark brown; upper tail-coverts steel-blue; outer webs and tips of the inner webs of the four central tail-feathers white; the remainder of the tail-feathers very dark brown; feathers of the flanks dark brown, tipped with steel-blue and with a conspicuous streak of white down the centre; abdomen brownish black; carunculated orbits rich blue; eye red; bill horn-colour; legs and feet red.

The female has the whole of the upper surface, wings and tail chestnut-red, very minutely freckled with dark brown; feathers of the throat and breast dark brown, largely tipped with chestnut-red, and margined on the sides with white; on the under surface the feathers are of a darker hue and margined all round with white; orbits, eye, bill, legs and feet as in the male, but not so brilliant.

The figures represent the two sexes two-thirds of the natural size.

EUPLOCOMUS SWINHOII, *Gould*

J. Gould and H. Richter, del. et lith.

Walter & Cohn, Imp.

EUPLOCAMUS SWINHOII, *Gould.*

Swinhoe's Fireback.

Euplocamus Swinhoii, Gould, in Proc. of Zool. Soc., 1862, p. 284.—Sclat. in Proc. of Zool. Soc., 1863, p. 119.—Swinh. in Ibis, 1863, p. 401.

Few of Her Majesty's Consuls have more assiduously availed themselves of the opportunities afforded them of collecting the birds of the distant regions in which they have been located than Mr. Swinhoe; and fewer still have shown greater acumen in discriminating and pointing out the distinctions which separate nearly allied species. It is but a just tribute, then, to the merits of this gentleman, that so remarkable and beautiful a bird as the one here figured should be named in his honour. The discovery of a small Warbler, or a new species of Finch, would not be destitute of interest; but how much more important is the acquisition of a highly ornamental addition to the *Gallinaceæ*! The two specimens, male and female, collected by Mr. Swinhoe in the little-known Island of Formosa are now in the British Museum, and are well worthy of the inspection, not only of the ornithologist, but of every lover of nature.

In size, this new bird is somewhat smaller than the Common Silver Pheasant (*Gennæus nychthemerus*), which it resembles in its red wattles and in the form of its tail; while in its strong legs and the scaly, stiff feathers of the lower part of its back it more closely assimilates to the members of the genus *Euplocamus*, and with that group I have accordingly associated it.

After stating that the true Pheasant inhabiting the Island of Formosa is identical with the Chinese *Phasianus torquatus*, Mr. Swinhoe says:—

"I was informed by my hunters that a second species of Pheasant, which was denominated by the Chinese colonists *Wú-koë*, was found in the interior mountains; that it was a true jungle-bird, frequenting the wild hill-ranges of the aborigines, and rarely descending to the lower hills that border on the Chinese territory; and that in the evening and early morning the male was in the habit of showing himself on an exposed branch, or roof of a savage's hut, uttering his crowing, defiant note, while he strutted and threw up his tail like a rooster. I offered rewards and encouraged my men to do their utmost to procure me specimens of this bird, and I was so far successful that I managed to obtain a pair; but, in my trip to the interior, it was in vain that I sought to get a view of it in its native haunts, and to make acquaintance with it in a state of nature.

"The female was brought to me on the 1st of April, soon after it was shot,—the heat of the weather compelling the hunters to skin it before they could reach me. It was, however, quite fresh enough to enable me to note the tints of the soft parts."

The male has the forehead black, gradually blending into the snowy white lanceolate plumes which form a slight crest, and continue in a narrow line down the nape of the neck; back snowy white, offering a strong contrast to the narrow black line with which it is bounded on each side, and the rich fiery chestnut of the scapularies; lower part of the back, rump, and upper tail-coverts intense velvety black, broadly margined with shining steel or bluish black, these scale-like feathers gradually becoming of a larger size and of a more uniform black as they approach the tail-feathers; wings blackish brown, the greater and lesser coverts fringed with green; two centre tail-feathers snow-white, the remainder black; the somewhat elongated feathers of the chest and flanks black, with shining blue reflexions; thighs and under tail-coverts dull black; sides of the face wattled to an extent seldom seen even among Gallinaceous birds, in front extending to the nostrils, while posteriorly it terminates in a point near the occiput; a large lappet hangs down over each cheek, and a more pointed one rises, in the form of a horn, high above the crown, the whole being of the finest crimson, and covered with papillæ, as in the *Gennæus nychthemerus*; legs bright pink-vermilion; soles a light, dirty ochreous; toes the same, patched with blackish.

The female offers a strong contrast to the male, from there being no appearance of a crest, and in the entire plumage being reddish or orange-brown, particularly the under surface; when examined in detail, however, many different but harmonizing tints are seen on the various parts of the body; on the back of the neck, mantle, scapularies, and lesser wing-coverts, the freckled brown feathers have lanceolate or spearhead-shaped markings surrounded with black down their centres, while the rump and upper tail-coverts are more uniformly and more finely freckled with orange and dark brown; primaries alternately barred on both surfaces with chestnut and dark brown; secondaries dark brown, conspicuously barred with ochre-yellow; throat brownish grey; chest orange-brown, each feather with two crescentic markings of dark brown; centre of the abdomen and thighs orange-brown, slightly freckled with darker brown; two centre tail-feathers dark brown, obscurely barred with buff; lateral tail-feathers nearly uniform deep chestnut; naked patch on cheek red.

The Plate represents the male and female, the former about two-thirds of the natural size.

PHASIANUS SHAWI, *Elliot.*

J. Gould & W. Hart del. et lith.

Walter imp.

GENNÆUS NYCTHEMERUS.

Pencilled Pheasant.

Phasianus nycthemerus, Linn. Syst. Nat., tom. i. p. 272.—Ib. Gmel. edit., tom. i. p. 743.—Lath. Ind. Orn., vol. ii. p. 631.—Temm. Hist. Nat. Gen. des Pig. et Gall., tom. ii. p. 281, et tom. iii. p. 665, pl. anat. 2. figs. 6, 7.—Ib. Man. d'Orn., 2nd edit. tom. i. p. 90.—Less. Traité d'Orn., p. 495.—Jard. Nat. Lib. Gallinaceous Birds, p. 207, pl. 18.—Bonnat. Ency. Méth. Orn., part i. p. 187, pl. 89. fig. 1. male, and fig. 1. no. 2. female.

——— *albus Sinensis*, Briss. Orn., tom. i. p. 276.—Id. 8vo, tom. i. p. 77.

Le Faisan noir et blanc de la Chine, Buff. Hist. Nat. des Ois., tom. ii. p. 359.—Ib. Pl. Enl. 123, 124.

The Black and White Chinese Pheasant, Edw. Nat. Hist., vol. ii. pl. 66.—Albin, Hist. of Birds, vol. iii. p. 35.

Pencilled Pheasant, Lath. Gen. Syn., vol. iv. p. 719.—Ib. Gen. Hist., vol. viii. p. 199.

Nycthemerus argentatus, Swains. Class. of Birds, vol. ii. p. 34.

Gallophasis Nycthemerus, Gray and Mitch. Gen. of Birds, vol. iii. p. 498.

Euplocomus nycthemerus, Gray, List of Birds in Brit. Mus., part iii. p. 25.

Gennæus, Wagl., Bonap. Tab. par. des Gall. in Compt. Rend. de l'Acad. des Sci., tom. xlii., Mai 12, 1856.

Grammatoptilos, Reichenb.

Spicifer, Kaup.

This familiar and ornamental species will be found described in the early works of Linnæus, Brisson, and Latham, the first of whom assigned to it the specific appellation of *nycthemerus*, an appellation which it has retained to the present day, although attempts have been made to set it aside; its generic name too, as will be seen on reference to the list of synonyms, has been subject to much mutation, each of the modern authors who have considered it desirable to separate it from the true Pheasants (genus *Phasianus*) having proposed a separate title; of these, that of *Gennæus*, instituted by Wagler, having the priority, is necessarily and very properly the one retained. It is somewhat astonishing, however, to find that although so many authors have noticed this bird, not one of them has recorded anything of its habits, manners, and economy in a state of nature; most of them content themselves with simply stating that it is an inhabitant of China; but Sir William Jardine, in the volume on the *Gallinaceæ* in his "Naturalist's Library," gives the northern parts of that great country as its habitat.

From the date of its first introduction to Europe it has been regarded as a bird more fitted for the aviary than for a denizen of our woods; and it is one of the birds which, so treated, has rewarded us for our pains; it may indeed be said to be completely naturalized in a domesticated state, and it could doubtless be established in our woods were such a measure desirable; but to effect this with success, no other species of Pheasant must be kept within its precincts, the pugnacious nature of this tribe of birds not admitting of the near proximity of two species, as the certain result would be a constant succession of battles, ending, as is known to be the case when the common domestic Cock and Pheasant meet, in the death of the weaker bird.

Our country is not perhaps, after all, well adapted either for this bird or its near allies the *Euplocomi*, recently brought to this country, and so successfully bred in the gardens of the Zoological Society of London. Few birds can be more interesting as ornaments for our aviaries, and as such I pray they may be kept, or at least confined to some limited area; for no good can result if they should hybridize with our Common Pheasant.

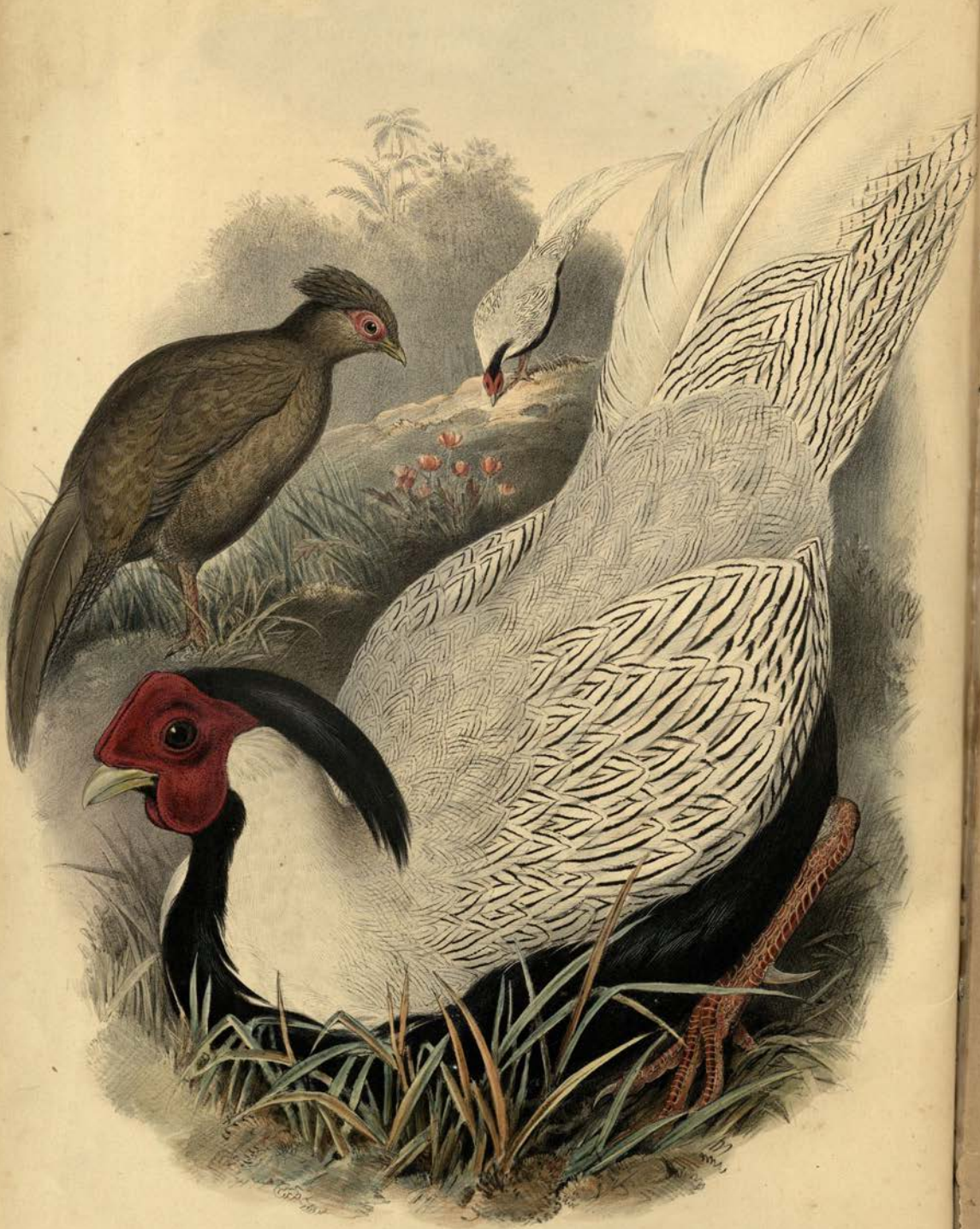
"The Birds of Asia" is not the place wherein to describe in detail the breeding and domestic habits of this bird in the aviary; but I may state that it bears confinement well, and, with but ordinary care, its propagation is attended with success. It is both a noble and a graceful bird, and were it less common, would be more highly esteemed. After the autumn moult, its pencilled markings are exceedingly delicate and graceful; and as spring advances, its rich comb and wattles become enlarged and of a most vivid scarlet, offering a striking contrast to its delicate pea-green bill. The colouring of the female is altogether as sombre; and a greater contrast cannot well be imagined.

I am indebted to Edward L. Betts, Esq., of Preston Hall near Maidstone, for the splendid specimen from which my figure was taken, that gentleman having, with the greatest kindness and liberality, permitted me to select the finest male from his aviary for the furtherance of this work.

The male has the crown of the head, the lengthened crest, and the whole of the under surface deep black glossed with blue; the remainder of the plumage white, each feather with three dusky lines, one within another, parallel to the margin, but meeting in a point towards the tip—these markings being conspicuous on the sides of the body and wings, and faint and delicate on the sides of the neck and upper surface of the body; tail obliquely striated with black, except the two middle feathers, which are entirely white; irides dark brown; wattles and face vivid scarlet; bill pea-green; legs lake-red.

The female is brown, freckled with darker brown; orbits smaller and less brilliant than in the male.

The front figure is as near the natural size as possible.



GENNÆUS NYCTHEMERUS.

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton Imp.

CATREUS WALLICHI.

Cheer.

Lophophorus Wallichii, Hardw. in Linn. Trans., vol. xv. p. 166.

Phasianus Wallichii, Gray & Mitch. Gen. of Birds, vol. iii. p. 497, *Phasianus*, sp. 4.—Jerd. Birds of India, vol. ii. pt. 2. p. 527.

——— *Staceii*, Vig. in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part i. p. 35.—Gould, Cent. of Birds, pl. 68.

Catreus Wallichi, Bonap. Compt. Rend. de l'Acad. des Sci., tom. xlii. séance du 12 Mai, 1856.

Chir, *Cheor*, *Banchil*, and *Herril* in various parts of the Himalayas; *Kahir* in Nepaul.

The Cheer has for the last few years been an object of great interest to those persons who have endeavoured to introduce additional species of the *Gallinaceæ* into our woods and coverts; their attempts, however, have not as yet been attended with any great degree of success; for although the present bird has bred in the Gardens of the Zoological Society, at Viscount Hill's at Hawkstone, and at the Earl of Craven's at Ashdown, it has not in either case furnished any evidence that its introduction would be beneficial for sport or for the table. Lord Craven has obtained a cross between this bird and our common Pheasant; but, as might be expected, it is a decided mule, and incapable of propagation. To all those who may not have opportunities for observing the Cheer in a state of nature, the sight of it in our menageries must be interesting; but there, in my opinion, the interest ceases.

I take the liberty of here transferring Major-General Hardwicke's original account of this species, and also a lengthened extract from the 'Bengal Sporting Magazine,' in which "Mountaineer" has given an interesting account of its habits and economy.

"The local name of this bird is *Cheer*. It is a native of the Almorah Hills, on the north-eastern boundary of Hindostan, is remarkably bold, and fights with great vigour on the least irritation, at the same time raising its feathers and prating with a noise which resembles the word *tuckraa*, *tuckraa*, several times repeated."

Mr. Jerdon informs us that "this fine though plain-coloured Pheasant is only found in the north-western Himalayas, extending into Nepaul, where, however, it is not so common as further west." "It is," says "Mountaineer," "an inhabitant of the lower and intermediate ranges, is seldom found at very great elevations, and never approaches the limits of forest. Its haunts are on grassy hills, with a scattered forest of oak and small patches of underwood, hills covered with the common pine, near the sites of deserted villages, old cow-sheds, and the long grass among precipices and broken ground. It is seldom found on hills destitute of trees or jungle, or in the opposite extreme of deep shady forest; in the lower ranges it keeps near the tops of the hills, and is rarely met with in the valleys or deep ravines. It wanders about a good deal on the particular hill on which it is located, but not beyond certain boundaries, remaining about one spot for several days or weeks, then shifting to another, but never entirely abandoning the place, and, year after year, may to a certainty be found in some quarter of it. It runs very fast, and, if the ground be open and no cover near, will run two or three hundred yards in preference to getting up. After concealing itself, it lies very close.

"The crow of this bird is loud and singular, and, when there is nothing to interrupt the sound, may be heard for at least a mile. It is something like the words *chir-a-pir*, *chir-a-pir*, *chir-chir*, *chirwa-chirwa*, but a good deal varied; it is often begun before daylight.

"The Cheer-Pheasant feeds chiefly on roots, for which it digs holes in the ground; grubs, insects, seeds, and berries, and, if near cultivated fields, several kinds of grain also form a portion of its diet. It is easy to rear in confinement, and might, without difficulty, be naturalized in England, if it would stand the long frosts and snows of severe winters, which I imagine is rather doubtful. The female makes her nest in the grass or amongst low bushes, and lays from nine to fourteen eggs, of a dull white, and rather small for so large a bird. They are hatched about the end of May or beginning of June. Both male and female keep with the young brood, and seem very solicitous for their safety.

"This bird flies rather heavily, and seldom very far. Like most others, it generally utters a few loud screeches on getting up, and spreads out the beautifully barred feathers of its long tail, both when flying and running. It does not perch much on trees, but will occasionally fly up into one near at hand when put up by dogs. It generally sleeps on the ground; and when congregated together, the whole flock huddle up in one spot. They will, however, at times roost in trees or bushes."

The male has the feathers of the head and crest dark ashy grey, with somewhat lighter edges; neck light ash-colour, slightly barred on the lower part with dusky black; neck, back, upper surface, shoulders, and wing-coverts barred with buff, ashy grey, and brownish black, with which latter hue the two former are

CATREUS WALLICHI.

J.Wolf and H.C.Richter del. et lith.

Walter Imp.

minutely freckled; on the lower part of the back, the buff bars become richer, and the rump and upper tail-coverts are rich rusty, with a narrow interrupted bar of black near the tip; primaries dark brown, partially margined and crossed by freckled bars and irregular markings of buff; two central tail-feathers alternately barred with pale buffy yellow and brownish olive, largely blotched and spotted with very dark brown; the lateral tail-feathers are alternately barred with deep buff and rich chestnut, bounded above and below with broad irregular marks of blackish brown; throat and breast yellowish ash-colour, crossed with a few curved black bars; abdomen dark brown; feathers clothing the thighs and vent yellowish brown, with irregular marks of brown in the centre of each; bill pale greenish olive-colour; cere scarlet; orbits bright red, inclining to purple; irides brown; legs and feet bluish white.

The female generally resembles the male, but is of smaller size and is destitute of the crest and spurs, has much more rufous on the feathers of the back and wings, each of which, moreover, has a line of buff down the shaft; she is destitute of the rufous hue on the rump, but, on the other hand, has the abdomen of that tint, though not so bright, and the dark markings of the breast of a striated instead of a barred form; the barrings of the tail, too, are less distinct, their hue is much less brilliant, and their freckling of a more minute kind.

The Plate represents the two sexes, nearly of the natural size.

THAUMALEA PICTA.

Golden Pheasant.

Phasianus pictus, Linn. Syst. Nat., tom. i. p. 272.—Id. Gmel. Edit., tom. i. p. 743.—Lath. Ind. Orn., vol. ii. p. 630.—Shaw, Mus. Lev., p. 206, pl. 50.—Pall. Zoog. Ross.-Asiat., tom. ii. p. 86.—Temm. Man. d'Orn., 2nde édit., tom. i. p. xc.—Id. Hist. Nat. Gén. des Pig. et Gall., tom. ii. p. 341, et vol. iii. p. 671.—Benn. Gard. and Menag. Zool. Soc. del. Birds, p. 59.

——— *sanguineus*, Klein, Aves, 114. 3.

——— — *aureus Sinensis*, Briss. Orn., tom. i. p. 271.

Faisan doré de la Chine, Buff. Hist. Nat. des Ois., tom. ii. p. 355.—Id. Pl. Enl. 217.

Painted, or Gold Pheasant, Lath. Gen. Syn., vol. iv. p. 717.—Edw. Nat. Hist., of Birds, pl. 68, male, pl. 69, low. fig., female.

——— *Pheasant*, Lath. Gen. Hist., vol. viii. p. 194.

Thaumalea picta, Wagl., Isis, 1832.—Gray, Gen. of Birds, vol. iii. p. 497, *Thaumalea*, sp. 1.—Gray, List of Spec. of Birds in Coll. Brit. Mus., part iii. p. 24.—Sclat. in Proc. of Zool. Soc., 1863, p. 117.—Schrenck, Vög. des Amur-landes, p. 521.

Chrysolophus pictus, Gray, Ill. Ind. Zool. pl.

Epomis picta, Hodgs.

Although this beautiful bird has been a denizen of our aviaries for upwards of a hundred years, we know no more of its history or of the districts of China it inhabits than we did when the illustrious Swede characterized it as *Phasianus pictus*; and what Latham wrote respecting it half a century ago is all that can be said about it at the present day.

It is reported to frequent the northern rather than the southern portion of China. Mr. Sclater gives as its habitat "Southern Daüria and the eastern part of the Desert of Mongolia, advancing in summer sometimes up to the Amoor; also the provinces of Kansú and Sechuen, in the interior of China, whence, Mr. Swinhoe informs us, living examples are brought into Canton for sale."

Latham says, "The native place of this beautiful species is China, where it is called *Kinki* or *Kinkee*, which signifies Gold-flower Fowl, or Wrought Fowl. As it is a hardy bird, attempts have been made to naturalize it in our climate, and many pairs have been turned out for this purpose, but, it is to be lamented, without success, the birds having in every instance been shot by some greedy and improvident sportsman, and we do not know of its breeding at large anywhere in Europe. It bears confinement well, and there breeds freely; hence any further importation from its native country seems needless. The flavour of its flesh is reported to exceed that of our species. The sexes are said to be subject to considerable change of appearance, and Edwards mentions that the females of some kept by Lady Essex in the space of six years gradually gained the male feathers; and we have been informed that it is not unusual for the hens, when about four or five years old, to be neglected by the cocks and gradually to gain the plumage of the other sex."

The head of the male is ornamented with a silky crest of fine amber-yellow feathers, those at the back of the head and neck being much prolonged, square at the ends, and of a rich orange-red, with a transverse narrow bar of blackish blue at the tip; at the will of the bird, these feathers are capable of being raised and brought forward, so as nearly to meet at the front of the neck; the feathers of the upper half of the back are of a dark glossy green, bordered at their rounded tips with a narrow band of velvety black; lower part of the back and rump rich wax-yellow; wing-coverts mottled dark brown and chestnut; greater coverts and spurious wing blackish brown with deep buff shafts and a line of the same hue along the margin of the outer web; primaries dark brown, with a broad band of pale buff along the basal two-thirds of the outer web, beyond which the apical portion of the shaft becomes of the same tint; secondaries dark brown, mottled with chestnut on their outer margins; tertiaries deep rich blue; cheeks flesh-coloured, sparingly clothed with feathers of the same tint; throat light orange-brown, all the under surface intense scarlet; upper tail-coverts long, narrow, of a rich crimson, and falling down on each side of the tail; two centre tail-feathers deep or blackish brown, mottled with numerous irregularly shaped blotches of buffy brown arranged in a series of diagonal rows; the remaining tail-feathers crossed diagonally with alternate wavy bands of dark and buffy brown, which become deeper in colour and less diagonal as the feathers recede from the centre; all the tail-feathers of a light buff at their extremities; irides orange; bill yellow at the tip, horny at the base; feet pale yellow.

The female is rusty brown, barred on the head, neck, and back with very dark brown, which markings become much smaller and irregular on the lower part of the back and upper tail-coverts, where the lighter hue becomes freckled with dark brown; wings dark brown, banded with reddish buff; under surface yellowish buff, banded on the neck with narrow, and on the flanks with broad, bands of blackish brown; tail crossed by alternate and irregular diagonal bands of black and greyish buff, which are broad and conspicuous on the central feathers, but become narrower and more regular on the lateral ones; irides hazel; feet like those of the male, but somewhat paler.

The accompanying Plate, in which the figures are about two-thirds of the natural size, will give a good idea of the great difference in the colouring of the sexes.

THAUMALEA PICTA.

Walter, Imp.

J. Gerald, and H.C. Richter del. et lith.

THAUMALEA AMHERSTIÆ.

Lady Amherst's Pheasant.

Phasianus Amherstiæ, Leadb. in Linn. Trans., vol. xvi. p. 129.

Thaumalea Amherstiæ, Gray and Mitch. Gen. of Birds, vol. iii. p. 497, *Thaumalea*, sp. 2, pl. cxxv.—Gray, List of Spec. of Birds in Coll. Brit. Mus., part iii. p. 24.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 246.—Sclat. in Proc. of Zool. Soc., 1863, p. 117.

This very remarkable member of the *Phasianidæ* was brought under the notice of the scientific world for the first time in 1828 by the late Mr. Benjamin Leadbeater, who, in a paper read by him at the meeting of the Linnean Society of London on the 2nd of December of that year, stated that "the return of His Excellency the Right Honourable Earl Amherst from India has made us acquainted with one of the most splendid examples of the genus *Phasianus* that has been submitted to the notice of ornithologists for many years past.

"Two males of this new and beautiful species came originally from the mountains at Cochin China, and were presented by the King of Ava to Sir Archibald Campbell, who gave them to the Countess Amherst. Her ladyship retained them in her possession about two years, and ultimately succeeded in bringing them both to England alive; but they only survived the voyage a few weeks.

"I propose the name of *Phasianus Amherstiæ* for this valuable addition to our catalogue, as a tribute due to the distinguished lady to whom ornithologists are indebted for the knowledge of this new species.

"The general character of this bird and the arrangement of its plumage are very similar to those of the well-known Golden Pheasant."

When Lady Amherst brought home the two examples from which Mr. Leadbeater's characters were taken, nothing certain was known of their history, of the locality whence they came, or of the country of which they were natives; and the time which has since elapsed has not enabled us to acquire this very desirable information. It is now, however, believed that the bird is an inhabitant of the Chinese province of Yunnan and the adjoining region of Tibet. It was seen by the preceding extract from the sixteenth volume of the 'Transactions of the Linnean Society' how Lady Amherst became possessed of her two specimens: one of them, I believe, is still in the possession of her family, the other, which was presented to Mr. Leadbeater by Lady Amherst, passed into the possession of the late Earl of Derby, and now forms part of the fine collection bequeathed by his lordship to the town of Liverpool; it is from this specimen that my figure was taken, and I am much indebted to the Trustees of the Derby Museum for their kindness in permitting me to make a drawing of it. Mr. B. H. Hodgson, formerly the British resident in Nepaul, and so well known for his devotion to natural history, obtained two specimens which had been brought into the Napaulese territory, from some distant country to the eastwards; they are now in the British Museum, and two more have, I believe, been sent to Paris. The six specimens enumerated, all of which are males, are probably all that have yet been collected. It would give me great pleasure to see a female of this fine bird, and every ornithologist would be truly gratified by the arrival of any information respecting the part of the celestial empire in which it dwells, and any details as to its habits. The bird would, doubtless, be as easily kept in our aviaries as its near ally the Golden Pheasant; and it is my ardent wish to see it thus located before I leave this lower world for the higher and brighter one, which is the end of our hopes and desires.

Irides white; naked skin surrounding the eyes light verditer-blue; feathers of the crown green; crest crimson; pendent tippet white, each feather tipped with a narrow, crescentic, dark green band, with an interior edging of a lighter tint and a straight band of the same kind about three-eighths of an inch from the tip; neck, back, shoulders, chest, and wing-coverts beautiful metallic green, each feather tipped with a broad zone of velvety black; primaries dark brown, with lighter shafts and white edgings; greater wing-coverts and secondaries bluish black; breast and belly white; thighs and under tail-coverts mottled dark brown and white; legs light blue; feathers of the rump brown at the base, green in the middle, and the exposed portion bright saffron-yellow; tail-coverts brown at the base, barred with green and white in the middle, and ending in scarlet; two broad middle tail-feathers olive-grey, crossed with curved bars of green about three-quarters of an inch apart, between which a series of oblique wavy lines of a blackish brown; the remaining feathers have the inner web narrow and mottled black and white, the outer web with curved brownish green bars, about three-quarters of an inch apart, on a ground the inner portion of which is greyish white, the outer light chestnut-brown.

The figure of the bird is about two-thirds of the natural size. The accompanying ferns are the two varieties of the *Pteris quadriaurita—argyrea* and *tricolor*. The beautiful butterfly is the *Papilio Paris*.

THAUMALEA AMHERSTIÆ.

J. Gould, and H.C. Richter del. et lith.

Walter Hart

DIARDIGALLUS PRÆLATUS, *Bonap.*

Siamese Fire-back.

Phasianus crawfurdii, Gray in Griff. edit. of Cuvier's Anim. King., vol. viii. p. 27 ?
Diardigallus fasciolatus, Blyth, Journ. Asiat. Soc. Beng., vol. xxvii. p. 115.—Gould in Proc. of Zool. Soc., part xxvii. p. 40.
———— *prælatus*, Bonap. Compt. Rend., 1856, p. 415 ?
———— *crawfurdi*, Gould in Proc. of Zool. Soc., part xxvii. p. 353.
Acomus ? crawfurdi, Bonap. Compt. Rend., 1856, p. 879 ??

It is through the exertions of Sir Robert Schomburgk, Her Majesty's Consul-General for Siam, that I am enabled to give a figure of this fine bird in the 'Birds of Asia.' The facts connected with the case may be briefly told. On inspecting the large collection of drawings at the East India House, I noticed one of a bird I had never seen, and which was said to have been made by Finlayson in Siam, forty years ago. I immediately solicited permission to take a tracing of the drawing, which tracing I forwarded to Sir Robert Schomburgk, with a letter directing his attention to the subject, and pointing out the desirability, if possible, of procuring a specimen. With the usual energy which actuates this gentleman whenever science is to be benefited, he gave immediate attention to the matter; and by the returning mail informed me that he had seen a living specimen in a Siamese menagerie, and that it would be forwarded to me by the next mail. The specimen arrived in due course; and from it the accompanying figure was taken. Almost simultaneously Mr. Blyth wrote to England, describing the bird from examples which had lately arrived in Calcutta, and mentioning that he had given it the name of *Diardigallus fasciolatus*, which specific appellation must, however, give place to that of *prælatus*, previously proposed by the late Prince Charles Bonaparte for specimens contained in the Leyden Museum. In Griffith's edition of Cuvier's 'Animal Kingdom' there is the description of a bird, taken from a drawing in the possession of Mr. Crawfurd, after whom the bird was called *Phasianus Crawfurdii* by Dr. Gray. This drawing I once considered to be a representation of the female of the bird here figured; and if such should prove to be the case, then the specific names of *prælatus* of Bonaparte and *fasciolatus* of Blyth must both give place to Dr. Gray's appellation *Crawfurdii*. Mr. Sclater, however, thinks it doubtful if the bird described in Griffith's edition of the 'Animal Kingdom' be the female of this species, as the specimens in the Leyden Collection, said to be females of the bird here figured, are different from the drawing: time and the acquisition of other specimens can alone determine the question; and Sir Robert Schomburgk will doubtless set the matter at rest with the same promptitude that characterized his acquisition and despatch of the male.

With regard to the particular part of Siam inhabited by this bird, Sir Robert has sent me the following note:—

"Learning some time since that there were some fine living animals and birds at a Wat, or Siamese temple, I went to look at them, and was particularly struck with a fine Pheasant, which, on inquiry, I was told came 'from the upper country,'—the usual answer to every question respecting the habitats of living animals or birds. About a week later comes your letter enclosing a drawing of the very bird I had seen in the Wat. Of course I sent forthwith the price demanded, and procured it. The poor thing was so gentle, I felt great compunction to kill it; for the sake of science, however, it was stifled, but I told my servant to do it in the most gentle manner. The bird having been kept in a domesticated state, I did not wonder when its owner told me that, in lieu of cereals, it had been fed upon the fry of fishes, prawns, and shrimps. I am not able to tell you much about its habits or its habitat. Some say it comes from the upper country, others that it frequents the regions near the coast. There is no doubt that it is a great rarity at Bangkok, which it would not be did it frequent the coast. I have not seen this Pheasant in the King's Collection, which I certainly should have done had it been there; for, as he usually receives me in the saloon near the Aviary, I could not have failed to notice it. With the nice drawing you have sent me in my possession, I think I shall be able to get some further information as to the habits of the bird; meanwhile I forward the specimen without

DIARDIGALLUS PRÆLATUS, *Bonap*

J.Gould and H.C.Richter. del. et lith.

Hullmandel & Walton Imp.

loss of time. Since writing the above, the Prime Minister, or Kalahome (the most gentlemanly of the Siamese Ministers and officials), has called on me. He tells me the Pheasant is found at Rapri or Raxaburi (according to Sir John Bowring's map in lat. 13° 33′ N.; long., say 100° E.)."

With regard to the bird's affinities to the other groups of the *Gallinaceæ*, it is most nearly allied to *Euplocomus*,—indeed, it can scarcely be separated from that form; but Mr. Blyth has proposed for it a new generic title, that of *Diardigallus*, and Bonaparte has followed in his wake. Mr. Blyth had the living bird before him, from which to draw his conclusions, and he states that the tail-feathers turn outwards, like those of the Black Cock. If such be the case, the bird differs from the members of the genus *Euplocomus*, whose tails are carried vertically, after the manner of those of the Domestic Cock.

Face and wattles naked, and of a brilliant red; line down the centre of the head, ear-coverts, nape, and chin dull black; shafts of the crest-feathers black, their feathered tips steel-blue; neck, breast, shoulders, and upper half of the back slate-grey, very minutely freckled with greyish white; wing-coverts and scapularies slate-grey, more conspicuously freckled with greyish white, and with a narrow line of white, succeeded by a broad fascia of black across the tip; feathers of the centre of the back slate-grey, freckled with white at the base, and largely tipped with lustrous golden yellow, only the latter colour showing, and forming a conspicuous patch; feathers of the lower part of the back, and the upper tail-coverts black at the base, with a broad band of shining steel-blue near the tip, succeeded by a broader band at the tip of rich deep fiery crimson red, these bands alone being seen and changing in hue and in intensity as the position is varied; wings dark grey, minutely freckled with light grey; primaries brown, freckled on their outer margins with light grey; tail-feathers glossy oil-green; feathers covering the abdomen and flanks black, margined with steel-blue; thighs black; bill greenish horn-colour; legs and feet deep red, the spaces between the scales paler; nails horny flesh-colour; spur dark horn-colour.

The figure is rather less than the natural size. In the distance I have given a reduced copy of Mr. Crawfurd's drawing, in case it should prove to be a representation of the female of this bird; of course the brown-coloured figure is the one referred to.

CROSSOPTILON AURITUM.

Chinese Crossoptilon.

Phasianus auritus, Pall. Zoog. Rosso-Asiat., tom. ii. p. 86.
Crossoptilon mantchuricum, Swin. in Proc. of Zool. Soc., 1862, p. 287.
——— *auritum*, Sclat. in Proc. of Zool. Soc., 1863, p. 118.—Milne-Edw. Nouv. Arch. du Mus., Bull. i. p. 14. pl. 1.—Bonap. Tab. par. du Gall., Compt. Rend. de l'Acad. Sci., tom. xlii. p. 879.—Newt. Zool. Rev., vol. iii., 1866, p. 107.
Crossoptilum auritum, Newt. Zool. Rev., vol. ii., 1865, p. 125.

The knowledge of the existence of the very fine bird figured on the opposite plate may almost be regarded as one of the results of our conquests in China; for, beyond the somewhat vague description given in Pallas's celebrated 'Zoographia Rosso-Asiatica,' it was previously unknown, whereas we are now aware that it is to be met with around Pekin, and it is often exposed for sale as an article of food in the markets of the northern part of the Celestial Empire. Even the Russian naturalists must have been taken by surprise when this was discovered to be the case; for I believe that so recently as five years prior to that in which I am now writing (1870) there was not a perfect specimen in the celebrated Museum at St. Petersburg, and certainly not in those of Berlin, Leyden, or Paris. Now, however, all have been or may be supplied with skins from Northern China or of specimens from the menageries of Europe, few of which, I presume, are destitute of living examples.

So tame is the disposition of this bird, and so readily does it breed in captivity, that, in these respects, it may be fairly compared with the common Fowl. In the gardens of the Zoological Society in the Regent's Park, many may be seen, either occupying the aviaries, moving about in a semidomesticated state, or roosting at night on the large trees of the Gardens apart from the enclosures. In confirmation of these assertions, I may give the following note, obligingly furnished me by Dr. Sclater, the Society's excellent Secretary:—

"The first living Crossoptilons acquired by the Society were two males, brought by Mr. Dudley E. Saurin from Pekin in 1866, and presented by him to the Society on the 15th of July in that year. On the 10th of the following November, we purchased, from the Jardin d'Acclimatation of Paris, two females, which had been bred in that establishment during the previous summer. Our two pairs thus formed bred in the Society's Gardens the following spring; and on the 26th of May, 1867, the first hatch, of seven young ones, was produced. On the 14th of June a second brood, of nine young ones, saw the light. In the following year (1868) two broods were likewise produced—one, on the 21st of May, of ten, and the other, on the 13th of June, of eight young ones. Incubation, as in the case of most of our foreign Pheasants, was effected by hens of the domestic Fowl. We are at present rather short of males of this Pheasant, but are offering *females* for sale at the very moderate price of £15 each. Seeing that we purchased our first two females for £50 each, it will be evident that the stock of this bird in Europe must have considerably augmented during the last three years."

Mr. Saurin, to whom we were indebted for the first specimens of this fine bird received alive, kindly drew up some notes upon this species and other Pheasants occurring in the neighbourhood of Pekin, which will be found in the Zoological Society's 'Proceedings' for 1866, p. 436, in which he says:—

"Pallas's Eared Pheasant (*Crossoptilon auritum*) is rarely seen in the Pekin market. The bird is found in the mountains to the north-west of that city, within the Great Wall, and about one hundred miles distant. The place is well known for its coal-mines, and has frequently been visited by Europeans—amongst others by the French Minister, M. Berthémy, the French Missionaries, and several of our Student Interpreters. M. Berthémy, who is a sportsman and fond of natural history, thinks that, taking into consideration the comparative tameness of the bird, and the fact that, since Europeans have come to Pekin, the peasants have always found a good market for the nests, this rare bird, which, so far as we know, is only to be found at this one spot, cannot fail soon to become extinct. Chinese guides, it is true, have assured me that it is to be found in the Wei-chung or Imperial hunting-grounds; but no reliance can be placed on their statements, even if the bird were called by the same name in so very distant a part of the country.

"The Chinese name is *Ho-chi*, either 'River-fowl' or 'Fire-fowl.' The translation depends on the character; and the peasants, who give it the name, know nothing of characters, while the students, who know characters, are quite ignorant of natural history.

"Pallas's Pheasant is never brought by Mongols, or frozen; therefore "*mantchuricum*" (the name applied to it by Mr. Swinhoe) is a misnomer. The hen lays towards the end of May; the eggs are larger

CROSSOPTILON AURITUM.

Walter, Imp.

J. Gould & H.C. Richter del. et lith.

than those of a common Fowl, and, so far as I recollect, rather bluish in tint. The Chinese, who bring these birds in, feed them with a kind of millet-cake; they are also very fond of barley, which is grown in abundance in the mountain-valleys."

We learn from Dr. Lamprey's notes on the gallinaceous birds observed by him in China, that this is one of the four kinds of Pheasants he has seen in the markets of Tien-Tsin, the uninterrupted cold of winter allowing of their being brought in large numbers from remote places, and preserving them fit for use until the spring. "The meat of this kind of Pheasant," says the Doctor, "is exceedingly delicate, and the body is nearly as bulky as that of a small-sized Turkey." (Proc. Zool. Soc., 1862, p. 221.)

To test the quality of the flesh of the *Crossoptilon*, I had a female, that had been killed by a male in the Zoological Gardens, cooked in the ordinary way. It weighed over five pounds. The pectoral muscles were white, like those of the Common Pheasant, and equal in flavour; but the legs and thighs, which were very large in comparison with the size of the bird, were coarse, brown, and less palatable.

Mr. Bartlett states that these birds breed when only one year old, that the young birds assume the adult plumage at the first moult, that the sexes are exactly similar, and that they are remarkably hardy and extremely tame. (Proc. Zool. Soc., 1868, p. 115.)

Mons. Armand David, the French Missionary at Pekin, to whom the authorities of the Museum of Natural History at Paris are indebted for the specimens of *Crossoptilon auritum* in their collection, "met with these rare birds for the first time in July 1863, in the northern valley of a high mountain, about fifteen leagues to the west of Pekin. The female only differs from the male in being slightly smaller in size, and in having the spurs but little developed; and the nuptial plumage and that of winter are identical. Captured and placed in an aviary, these birds become gentle and familiar; their voice is varied, but closely resembles that of the domestic Fowl. The Chinese know the bird by the name of Ho-ki or Gho-hy. It dwells in small numbers in the most wooded places of the mountains. Three specimens killed in July had their crops filled with the leaves of *Cytisus*; while those procured in winter contained nuts, various kernels, leaves of mugwort, ferns, and, above all, roots of orchids and other succulent plants, coleoptera, worms, and caterpillars. When I killed the three adults above mentioned, there were four other old ones and fifteen young, all feeding together in a neighbouring field. Were they two families united? They perch readily, and carry their tails elevated, like the common Fowl." (Nouv. Archiv. du Mus. d'Hist. Nat., Bull., tom. i. p. 13.)

The male has the short, velvety, and partially curled feathers clothing the head deep glossy black; sides of the head devoid of feathers, and of a deep blood-red, below which is a conspicuous lengthened tuft of silvery white feathers directed backwards and upwards; chin and throat silvery white, tinged with grey; neck and the anterior portion of both the upper and under surfaces of the body deep, glossy, purplish black, gradually becoming paler on the latter, until it fades into leaden grey on the vent and thighs, and into a lighter grey on the under tail-coverts; on the former, or upper surface, the purplish black becomes of a hair-brown on the upper part of the back and wings; lower part of the back, rump, and upper tail-coverts hoary grey; all the tail-feathers grey at the base and purplish blue on their apical portion; irides light orange; bill fleshy; feet sealing-wax red; nails horny.

Total length 33 inches, bill $1\frac{3}{4}$, wing $12\frac{1}{2}$, tail 17, tarsi 4.

The figure is about two-thirds of the natural size.

CALOPHASIS ELLIOTI.

Elliot's Pheasant.

Phasianus Ellioti, Swinhoe, P. Z. S. 1872, p. 550.
Calophasis Ellioti, Elliot, Monogr. Phasian. ii. pl. 13 bis (1873).

If there has been one bird which has more than any other puzzled ornithologists lately, it is the remarkable and beautiful species figured in the accompanying Plate; and it must strike every one with surprise that so showy a bird should have remained so long undiscovered. Still so it is; and it has been left to Mr. Swinhoe, during his last trip to China, to discover and send to England fine skins of this abnormal Pheasant. To say that it is a true Pheasant would be wrong; for although it exhibits the general form of a *Phasianus*, its plumage partakes of the characters of several other members of the family, as has been pointed out by Mr. Elliot in the account of the species transcribed below. In fact the bird is (if such a thing were possible) a medley of two or three forms together, which one could have imagined to have been produced by their constant interbreeding. We must, however, regard it as a true species, and one of which both Mr. Swinhoe and Mr. Elliot, who have done so much to increase our knowledge of the Pheasants, may well be proud—the former as the describer of, and the latter in having his name attached to, so fine a bird.

I cannot do better than reproduce the account which Mr. Elliot has lately published in his Monograph; and I do so the more willingly as the rarity of the last-mentioned work renders it probable that many of my readers have not had the opportunity of perusing the original account.

"This magnificent species, upon which Mr. Swinhoe has done me the honour of bestowing my name, is one of the most interesting, as it is also one of the most recent, novelties which that zealous and indefatigable naturalist has made known to science. It is a native of the mountain-range that lies behind Ningpo, in the Chinese province of Che-Kiang, where it represents, to a certain extent, such Pheasants as *Phasianus torquatus*, which inhabit the great tract lying between the hilly regions and the sea. On discovering this beautiful bird my friend immediately notified me of his good fortune, sending at the same time one of the feathers from the back, by which I was enabled to perceive that the species was entirely unknown in Europe."

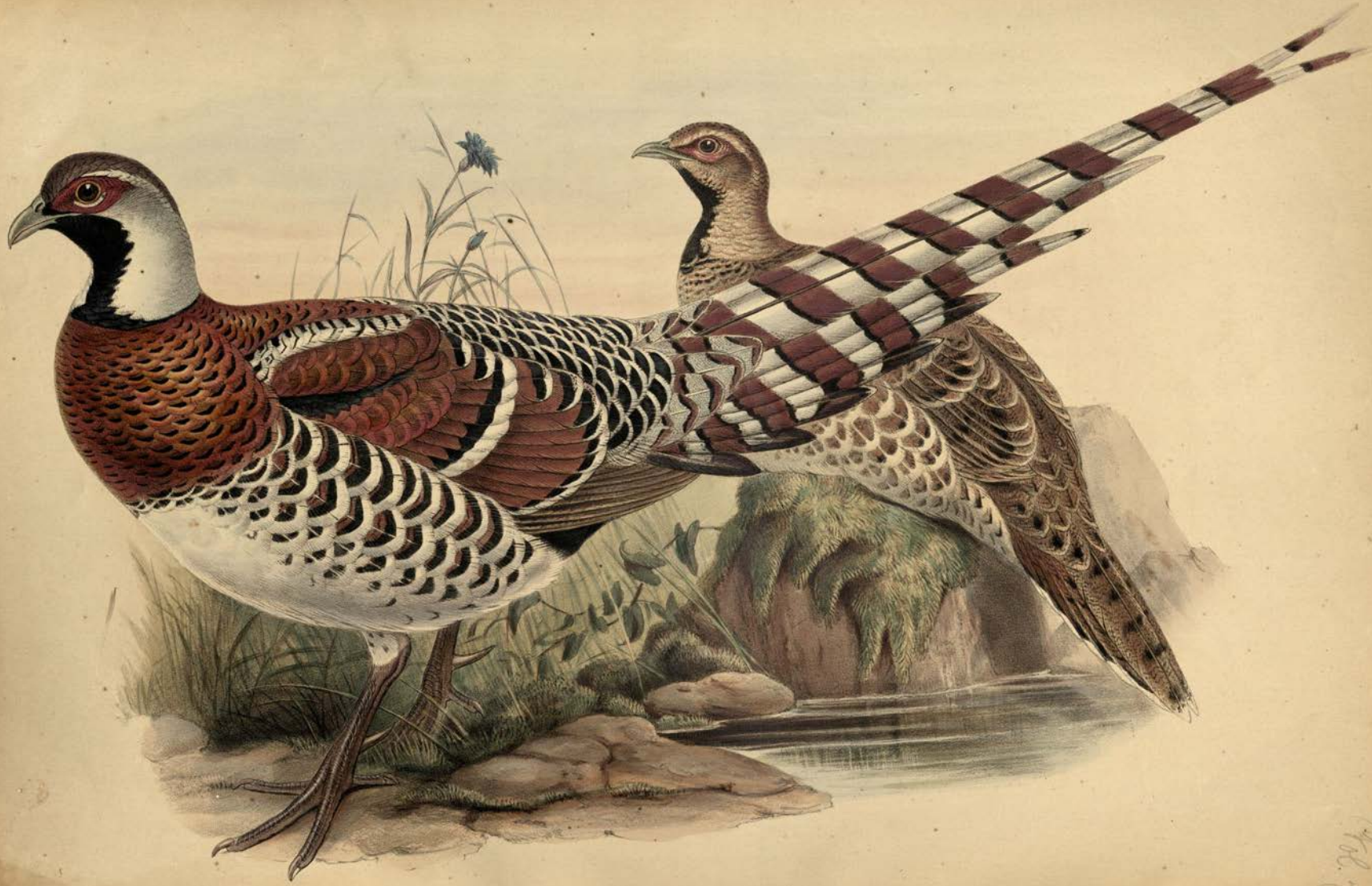
"In his paper read lately before the Zoological Society of London, in which this and some other birds are described, Mr. Swinhoe writes of this Pheasant as follows:—

"'From the mountainous region of this province (Che-Kiang) I have procured a truly beauteous Pheasant, perhaps the loveliest of that lovely group. It is smaller than *P. torquatus*, and has comparatively shorter wings and longer tail. The colouring of its head and tail recall *P. Reevesii*, its coppery back and breast the *P. Sœmmeringii* of Japan, and the glowing maroon on its scapulars the *Euplocamus Swinhoii* of Formosa; but its curiously marked lower back and its white-barred wing are suggested by no other species of this family to my knowledge, and its white underparts no other true Pheasant possesses."

"'Its mate is a smaller bird, and in coloration more of a Grouse than a Pheasant; but in her black underneck, and in the marks of her lateral rectrices, she shows her relationship to her lord. Possessed of so many striking characters, it would be easy to find an appropriate name for so marked a species; but on glancing down the list of Pheasants I find that not one bears the name of Elliot; and it strikes me it would be wrong to allow his magnificent work on the group to close without the figure of a bird dedicated to himself: I therefore propose to name this firstfruits of my researches in this province *Phasianus Ellioti*.'"

"Desiring, equally with myself, that this new species should be illustrated in this work, Mr. Swinhoe at once forwarded to his agent in London the male and female, which he had with much difficulty been able to procure; and soon after their arrival they came into my possession, in perfect condition, making a most valuable addition to my collection of these beautiful birds.

"Although Mr. Swinhoe has placed this species in the genus *Phasianus* among the true Pheasants, I am unable to agree with him (after carefully examining the specimens) in deeming that to be its correct position. In many points it resembles the true Pheasants; but in many more this new form differs entirely from them. The head of the male resembles somewhat those of the true Pheasants, although I doubt if the naked skin would ever expand into the large conspicuous wattles which form such a striking mode of adornment in the members of the genus *Phasianus*; while the bill is smaller, and the nostrils are only partially covered by a scale. One of the most remarkable differences perceptible is in the structure and form of the feathers on the lower part of the rump. In all true Pheasants these are long, loose, split, and of a hairy-like texture, very dense, and they almost, if not entirely, conceal the upper tail-coverts. Now the present species exhibits



CALCOPHASIS ELLIOTI.

none of this; but the feathers of the rump are rounded, and proceed in regular gradation down the back, and form an abrupt distinct line just above the upper tail-coverts, leaving them entirely exposed. Here our new bird resembles the members of the genus *Euplocamus*, and also, to a certain extent, the subgeneric forms *Graphophasianus*, *Syrmaticus*, and *Catreus*. Another point of divergence is the colouring of the wing, which in its white scapulars and distinct bar comes nearer the style othe members of the genus *Euplocamus* than that of any other kind of Pheasant at present known. Its lengthened spur, sharp at the point, also brings it near the species of the genus just mentioned, and is unlike any species of *Phasianus*, all of which have short blunt spurs, in most instances but little more than knobs. But the female exhibits, even to a greater degree than the male, characters not found in any species of Pheasant belonging to existing recognized genera, and, in her relationship to him, differs in a more marked manner than is to be witnessed among the females of any species of the genus *Phasianus*. One of these characters (and one which would be apt to first attract the eye of the observer) is a large bare place of scarlet skin upon the face, which is apparently clearly visible all the year; for the specimen was shot in December, at which time it is most likely that any bare skin or wattle would be shrunk to its smallest dimensions. This is not found upon the female of any species of the genus *Phasianus*, although the hen of the subgeneric form *Catreus* exhibits it. In the general colour of the body the female of this new form resembles very much a Grouse; the tail is shorter than are those in the same sex of other Pheasants; while the under coverts are very like those of a Pucras, and the tarsi have a well-marked indication of a spur."

I do not add a detailed description of this Pheasant, as the annexed Plate exhibits its characteristics to the fullest extent. But I must here thank Mr. Elliot for his liberality in lending me his specimens of this and other rare Pheasants to figure in the present work.

The birds are drawn in the Plate about four fifths the natural size.

PUCRASIA XANTHOSPILA, *G. R. Gray.*

Chinese Pucras Pheasant.

Pucrasia xanthospila, G. R. Gray in Proc. of Zool. Soc. 1864, p. 259, pl. xx.

The great range of mountains running eastward from the Caspian Sea through Affghanistan and northern India to the neighbourhood of Pekin in China is tenanted by four species of Snow-Partridges (*Tetraogalli*), the same number of Horned Pheasants (*Ceriornes*), and four species of the form represented on the opposite plate: all these birds, with the Monauls (*Lophophori*), the blood-stained Partridge (*Ithaginis*), the *Catreus Wallichii*, and the *Euplocami*, which, curiously enough, are also four in number, are peculiar to this favoured region, none of them extending their range either to the plains of India, the Neilgherries, or any of the out-jutting ranges towards the south. The members of the genus *Pucrasia* inhabit the higher lands from the most eastern part of China to the western portion of the Himalayas. The present new species was described by Mr. G. R. Gray in June 1864, from two specimens, male and female, presented to the British Museum by the Hon. Sir Frederick W. A. Bruce, K.C.B. Since that date not only have other skins been sent to Europe, but living birds have been forwarded from Northern China in considerable numbers, confirming the truth of the remark I have made in my history of the *Phasianus Reevesii*, that the opening of China to the scientific world has materially contributed to our knowledge of the avifauna of the world: that the natural productions of that great country are by no means exhausted, there can be no doubt; what may next arrive, we of course know not; but all naturalists are looking forward with great interest to the collections which may be expected from time to time to be transmitted to this country.

As Mr. Gray's account of the bird has been so recently published, and his technical description is moreover very accurate, I take the liberty of transcribing what he has written.

"This bird," says Mr. Gray, "though noticed by Dr. Lamprey in the Proceedings of the Zoological Society for 1862, p. 221, as 'another kind of Pheasant found in the Tien-Tsin market,' was not inserted by Mr. Swinhoe in his "Catalogue of the Birds of China" published in the 'Proceedings of the Zoological Society for 1863'; it is thought therefore that the description of the present examples may be acceptable to the Society as adding an interesting species to the Catalogue of Chinese birds previously printed in their publications.

"Forehead, cheeks, throat, and the lower or lengthened part of the crest black, glossed with green; crown and upper or shorter part of the crest of an obscure sandy buff, which is brighter on the ends of the longer feathers; on the side of the neck a pure-white space surrounded on three of its sides by the glossy green black colour, behind this a space of pale sandy buff with a line of white down the shaft of each feather; some of the feathers have a black line along their margins; napes, sides of the breast, back, and wings black, with a grey mark down the centre of each feather, and a very narrow black line down each side of the shaft, while the outer margin is broadly margined with grey; feathers of the under surface similarly marked, but the grey much paler; the castaneous colour down the middle of the breast and abdomen not so rich as in the other species; wings black, with white shafts and brownish-grey edges; primaries brownish black on their inner, and buff on their outer webs, and at the tip of both; tertiaries black, with the shafts and outer margins greyish white, the black in some feathers varied with rufous; central tail-feathers grey on each side of the black shafts, then a line of black broadly bordered externally with greyish castaneous, then narrowly with black and lastly with grey; outer tail-feathers grey, banded obliquely near the middle and tip with black, the first band sometimes interrupted, the second one entire and broad, and each feather tipped with pure white; under tail-coverts black, conspicuously tipped with white; vent-feathers similar, but with a castaneous spot on each side.

"The general tint of the female is pale brown, blotched and freckled with black, the blotches being most conspicuous on the back of the neck, upper part of the back, and wings; lower part of the back and the rump pale greyish brown varied with grey, and freckled with black, and with some small blotches of black on the tail-coverts; central tail-feathers greyish brown, with interrupted bands of brownish black and white; outer tail-feathers grey, banded with black, which is slightly varied with castaneous, and each feather tipped with pure white; throat white, irregularly spotted beneath the lower mandible with black; feathers on the sides of the throat white, margined with black spots; breast pale rufous brown, with the tip of each feather white, and the base and outer side black; feathers of the thighs black, with white shafts and tips, some of them varied with pale rufous; under tail-coverts black, marked on their sides with castaneous, and conspicuously tipped with pure white."

Time and future research must make us acquainted with the habits and economy of this fine species, in the absence of any knowledge of which I must content myself with giving figures of the two sexes nearly of the size of life.

PUCRASIA XANTHOSPILA, *GR.Gray.*

J.Gould. & H.C.Richter del. et lith. *Walter Imp.*

PUCRASIA DARWINI, *Swinhoe.*

Darwin's Pucras Pheasant.

Pucrasia Darwini, Swinhoe, P. Z. S., 1872, p. 552.—Elliot, Monogr. Phasianidæ, i. pl. xxx. (bis).

"This new species of Pheasant," says Mr. Elliot, "appears to represent, on the eastern Chinese ranges, the buff-spotted Pucras of the more western portion of that mighty empire: and this is somewhat strange; for, being intermediate in plumage between *P. xanthospila* and *P. macrolopha* of India, we should naturally have looked for it in a region lying between those inhabited by the species just mentioned."

When describing the *Calophasis Ellioti* from the mountains behind Ningpo, Mr. Swinhoe gives the following note on the present bird:—"The same mountains have also yielded a Pucras Pheasant remarkable for the absence of the golden neck-spot which adorns the *Pucrasia xanthospila* of Northern and Western China (Mantchuria to Szechuen). It is of the same model as the other two closely allied species, *P. macrolopha* of the Himalayas and the above-mentioned, but differs sufficiently from either to be recognized as a third race of this curious type."

I give in detail the very careful description which Mr. Swinhoe adds respecting it:—

"*Male.*—Head coloured as in the other two, but the bronze encroaching more on the crown; central occipital crest yellowish brown, with central yellowish streaks; lower eyelid covered with minute pure white feathers; white spot on side of nape as usual. Feathers of the hind neck white, delicately shaded over, and with four black streaks converging to tip; greyer on the back and rump, the lines opening into mottling; some of those covering the rump having a V-mark of black with pale yellowish centre and light chestnut shading. The long uropygials and central tail-feathers greyish white, with a broad margin of chestnut, flanked inwardly with black and outwardly with narrow white. Rectrices pale French or Kestrel grey, bordered along the sides with black, edged with grey, and barred at the end with black conspicuously tipped with white; in the outer feathers the black border is confluent with the bar, in the more central it is broken by the grey extending across; all have more or less black about the basal two thirds of the stem. The two central tail-feathers coloured like the tail-coverts, but clearer and brighter. Median feathers of the underparts from the neck downwards deep chestnut as usual, lighter and dingier on the abdomen; lateral feathers reddish buff, with four converging black streaks, the two inner ones breaking up into mottling; tibial and latero-abdominal with outer streak very broad. Under tail-coverts black, marked more or less with deep chestnut, and tipped with a conspicuous white spot. Scapulars and wing-coverts varying in depth of chestnut tint, and in breadth of black lines; many of the former and secondary coverts black, with yellowish central streak and margined with chestnut. Primary quills brown, margined with buff; secondaries more mottled, with the edging more chestnut; tertiaries mottled and patched with buff, chestnut, and black, with yellowish central streak; axillaries and under wing-coverts mottled minutely, and the former streaked with light black.

"Compared with a specimen of *P. xanthospila* from Pekin, occipital crest much darker, some of the feathers with a central yellow streak; cuneate feathers of the neck much shorter, without a tinge of yellow, those of the back and rump much broader; sides of the body washed with a warm sienna instead of lemon-white, and more narrowly streaked with black; rump-feathers shorter and broader, mottled instead of streaked with black; a single line of black feathers running down the middle of the rump, margined with grey, and patched in the centre with chestnut with a pale streak running through; of a larger size, with larger legs and feet; wings and tail differ in detail of colour and markings.

"*Fresh male shot about the middle of December.*—Length 24 inches; wing 9·25; tail 9·5, consisting of fourteen rectrices and two centrals, which in appearance are but a continuation of the tail-coverts advancing *gradatim* to cover the tail; tarse 3·4; middle toe and claw 2·9. Bill black; iris deep brown; legs and toes deep blackish grey. Crop full of bamboo-leaves, with a leaf or two of other trees and a few berries.

"*Fresh female shot in beginning of January* 1872.—Entire length 19·25 inches; wing 8; tail 6; tarse 2·9, with a tubercle on the inner side towards its backward edge, 0·6 above hind toe; middle toe and claw 2·5. Bill blackish brown on whole of upper mandible and tip of lower, bluish grey on rest of latter; inside of mouth yellowish flesh-colour, yellower on the tongue, which is broadly sagittate; skin round eye deep purplish brown; lower eyelid covered with minute white feathers; legs and claws light leaden."

The species is represented in the Plate by a male and female, rather under the natural size.

PUCRASIA DARWINI, *Swinhoe*

Hould & W Hart del et lith

Wehnert Imp

PUCRASIA MACROLOPHA.

Himalayan Pucras Pheasant.

Satyra macrolopha, Less. Dict. Sci. Nat. tom. lix. p. 196.
Phasianus pucrasia, Gray in Griff. An. Kingd. vol. vii. p. 610.—Ib. Ind. Zool. pl. —Gould's Century of Birds, pls. 69, 70.
——— *Pucrasse*, Gray in Griff. An. Kingd. vol. viii. p. 26.
Tragopan Duvaucelii, Temm. Pl. Col. 545.
Eulophus macrolophus, Less. Comp. Buff. tom. viii. p. 354.
Pucrasia macrolopha, Gray and Mitch. Gen. of Birds, vol. iii. p. 503.—Gray, List of Birds in Brit. Mus. Coll. part iii. p. 31.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 245.

It will be seen by the above list of synonyms that this well-known and beautiful species has been honoured with as many names, both generic and specific, as any other of the *Phasianidæ* inhabiting India. Its native habitat is the central portion of the great Himalayan range, to the eastward of which it is represented by the *Pucrasia Nipalensis*, and to the westward by the *Pucrasia castanea*. I learn from the notes of the late Hon. F. J. Shore that it is found all over Gurhwall, on ridges from 5500 to 8000 feet high, and that its native name is *Koklas* or *Fuklas*. Major-Gen. Hardwicke procured it on the Almorah Hills, and Dr. William Jameson states that it inhabits the Himalayas at an elevation of from 1800 to 5000 feet.

As is the case with the other species of Pheasants, the sexes offer very considerable difference in the colouring of their plumage, and the young probably resemble the female until after the second moult; but on this, as indeed upon all other points connected with the habits and economy of the species, nothing has as yet been recorded.

Forehead, cheeks, throat, and the lower or lengthened part of the crest dark shining green; hinder part of the head and upper or shorter part of the crest dull sandy buff, the two colours mingling on the occiput; on each side of the neck within the green a large oval spot of pure white; lanceolate feathers of the back and sides of the neck ashy grey at the base, passing into purer grey towards the tip, and each with a narrow streak of black down the centre; the wing-coverts and flank feathers are very similar, but the streak down the centre is broader at the base, the ashy grey is of redder hue, and the edges fade almost to white; those on the lower part of the flanks moreover have pale buffy shafts; the feathers of the centre of the breast and abdomen are rich deep chestnut, some few on the sides being blackish brown edged with whitish, and others with the inner web chestnut, and the outer one blackish brown edged with whitish; feathers of the back and rump pale ashy grey, fading into whitish on the edge, and with a narrow streak of black down the basal portion of the shaft, exchanged on the rump and upper tail-coverts into a larger mark divided by a light-coloured shaft; greater coverts and secondaries blackish brown margined with ashy grey, becoming paler on the edge; primaries brownish black on their inner webs, and buff on their outer ones and at the tip of both; tertiaries reddish ash at the base, a streak of deep buff down the centre, and a large spade-shaped mark of black edged with grey at the tip; central tail-feathers dull chestnut-red, stained with black near the base and on either side of the shaft; lateral feathers brownish black; the basal half of the external web rufous, and margined with grey stained with rufous at the tip; vent feathers black, edged with whitish; under tail-coverts black, with a streak of chestnut-red down the tip, passing into the whitish fringe of the extremity; bill black; feet horny brown.

The general tint of the female is a pale brown, blotched and freckled with black, the blotches being largest and most conspicuous on the back, scapularies, and outer webs of the secondaries; each feather of those parts has also a stripe down the centre, which is of a deep tawny buff on the upper part of the back, becoming on the coverts and scapularies of a pale or whitish buff; ear-coverts mottled buff and black; over the eye a streak of buff, and a broader one from the angle of the mouth; throat buff, bounded on each side by a series of deeper buff feathers tipped with black, which are continued and spread out both backward and forward at the base of the neck; breast deep tawny, mottled with black; flanks and thighs similar, with a stripe of buff down the centre of each feather; under tail-coverts chestnut, blotched with black near, and a large spot of white at the tip; tail-coverts and central tail-feathers pale brown, crossed with broad irregular bands of deep or tawny buff; lateral feathers crossed near the tip with a broad band, which as well as the inner webs is black; basal portion of the outer webs chestnut; all conspicuously edged with white at the tip.

Total length, 22½ inches; wing, 9⅜; tail, 9½; tarsi, 2⅜.

The Plate represents both sexes of the size of life.

PUCRASIA MACROLOPHA.

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton, Imp.

PUCRASIA CASTANEA, *Gould.*

Kafiristan Pucras Pheasant.

Pucrasia castanea, Gould in Proc. of Zool. Soc. April 11, 1854.

Two adult examples of this Pheasant grace the collection of the Hon. East India Company, and I am indebted to the Directors and to Dr. Horsfield for permission to figure so fine a bird for the first time in "The Birds of Asia." The two specimens referred to were collected by Dr. William Griffith in Kafiristan, and, so far as I am aware, are all that exist either in the collections of this country or those of the Continent. The discovery of this fine bird tends to prove that our knowledge of the *Phasianidæ* inhabiting the Asiatic continent is far from complete, and we may fairly infer that if so large a bird has hitherto escaped the notice of travellers, additional novelties will yet be obtained when the more distant regions are diligently explored.

The *Pucrasia castanea* is a larger, longer and more powerful bird than the *P. macrolopha*; its rich uniform chestnut-coloured mantle, breast and flanks at once distinguishing it from the other species of the genus.

I need scarcely add, that any information respecting the localities inhabited by this bird and its near allies, their habits, manners and general economy, will be most acceptable, and I would therefore strongly press the matter upon the notice of residents and travellers in India, in the hope that they may be induced to give some attention to the subject, and favour us with the result of their observations.

Forehead, cheeks, chin and lengthened portion of the crest dark shining green; hinder part of the head and the shorter portion of the crest dull sandy buff, the two colours blending on the occiput; on each side the neck an oval patch of white; lanceolate feathers of the neck both above and below the breast and flanks deep chestnut; feathers of the upper part of the back black, stained with chestnut on the outer web and margined with grey; lower part of the back and rump grey, fading into white on the edges and with a narrow streak of blackish brown down the shaft; wing-coverts dark brown, largely edged with greyish and ashy brown; primaries brown on their inner margins, cream-white on the outer ones; feathers of the lower part of the abdomen brownish black, edged with whitish; under tail-coverts chestnut, with a black line fringed with white at the tip; upper tail-coverts ashy grey, with a broad mark of blackish brown down the centre, but not extending to the tip; tail-feathers black, the centre ones broadly margined with grey freckled with black, the remainder fringed with whitish at the tip; bill black; feet horny brown.

Total length, 23 inches; wing, $9\frac{3}{4}$; tail, $10\frac{1}{2}$; tarsi, $2\frac{3}{4}$.

The figure represents the bird the size of life.

PUTRASIA CASTANEA, *Gould.*

J.Gould and H.C.Richter del. et lith.

Hullmandel & Walton, Imp.

PUCRASIA NIPALENSIS, *Gould.*

Nepaul Pucras Pheasant.

Pucrasia Nipalensis, Gould in Proc. of Zool. Soc. April 11, 1854.

Of the three species of *Pucrasia*, the present is by far the most highly coloured and beautifully marked; the mantle, the sides of the neck, and the flank feathers being conspicuously striated with black, chestnut and grey, while the same parts in the others are, as will be seen on reference to the respective plates, very different and sombre in comparison. In size it is the smallest bird of the three, and as regards rarity it is second only to the *Pucrasia castanea*; specimens, however, are contained in the collection at the British Museum, in that of the East India Company, and, I believe, in that of the Jardin des Plantes at Paris.

The native habitat of this fine Pheasant is Nepaul and Bhotan, whence, I believe, all of the specimens contained in the collections above mentioned have been sent by Mr. Hodgson.

Forehead, cheeks, chin and lengthened portion of the crest deep shining green; hinder part of the head and the shorter portion of the crest buff with lighter shafts, the two colours blending on the occiput; on each side the neck an oval spot of white; feathers of the sides and back of the neck and upper part of the back brownish black, with a narrow mark of rich chestnut down the centre, and edged with rufous or whitish; feathers of the lower part of the back brownish black, with white shafts and edges; wing-coverts blackish brown, with white shafts and margins; scapularies broadly margined with deep reddish buff; primaries brown on the internal web, deep buff on the outer; tertiaries pale chestnut, mottled with black along the shaft and towards the edge, which is sandy buff; throat, centre of the breast and abdomen rich chestnut; flank feathers brownish black with white shafts, bordered on each side by a very fine line of chestnut and narrowly edged with grey, the markings becoming larger and paler behind the thigh; under tail-coverts lively chestnut, with an oval spot of white at the tip of each; centre tail-feathers rufous, stained with black near the shaft, the remainder black on the inner web and at the tip; the outer webs chestnut, which colour curves round into and occupies a portion of the internal web near the tip, all fringed with white at the tip; bill black; feet horny brown.

Total length, $20\frac{3}{4}$ inches; wing, $8\frac{1}{8}$; tail, 9; tarsi, $2\frac{1}{2}$.

The figure is the size of life.

PUCRASIA NIPALENSIS, *Gould*

Hewitt and H.C. Richter del. et lith. *Hullmandel & Walton, Imp.*

TETRAOGALLUS CASPIUS.

Caspian Snow Partridge.

Tetrao Caspius, Gmel. Edit. of Linn. Syst. Nat., tom. i. p. 762.—S. G. Gmel. It., tom. iv. p. 67. tab. 10.
Perdix Caspia, Lath. Ind. Orn., tom. ii. p. 655.
Tetrao Caucasica, Pall. Zoog. Ross. Asiat., tom. ii. p. 76. pl.
Perdix (Megaloperdix) Caucasica, Brandt, Bull. Sci. de l'Acad. Imp. de St. Pétersb., vol. viii. p. 190.
Lophophorus Nigelli, Jard. and Selb. Ill. Orn., vol. ii. pl. 76.
Caspian Partridge, Lath. Gen. Syn. Supp., vol. ii. p. 283.—Ib. Gen. Hist., vol. viii. p. 290.
Keph-e-derra, or Royal Partridge of Persia.

Valuable and interesting as are the Gallinaceous birds of India, both as objects of beauty and as supplying the human race with a great store of nutritious food, there is a group, the *Tetraogalli* or Snow Partridges, which, if I mistake not, is destined to play as important a part in the latter respect as any of the Gallinaceæ previously known. The great plateau of Asia, particularly the country of Tibet, is yearly becoming more and more accessible, and surely the time is not far distant when the introduction of some of the species into the British Islands will be attended with success. I cannot conceive localities better adapted to the habits of any one of them than the Highlands of Scotland and the hilly districts of Northumberland, and other northern counties of England; as an evidence that they will exist in far more unfavourable situations, I may mention that two individuals lived for several years in the Menagerie of the Zoological Society of London in the Regent's Park. Those who visited these Gardens during the years 1852 and 1853 cannot have failed to notice the fine bird from which the figure in the accompanying Plate was drawn. This noble specimen, the *Keph-e-derra*, or Royal Partridge of Persia, was presented to the Society by R. Stevens, Esq., H.B.M. Consul at Tabreez: on its arrival at the Gardens it was in a bad state, both of health and plumage, but it speedily recovered, and after the succeeding moult we had an opportunity of seeing the bird in as fine a state of plumage as if we were viewing it in its native wilds. A female had been previously presented to the Society (in 1842) by E. W. Bonham, Esq.; this also was from Persia. I regret to say both these interesting birds are dead; and I need scarcely add how highly a further donation of living examples from any one favourably situated for procuring them would be esteemed by the Society, or how important in an economic point of view would be the introduction of a sufficient number to ensure their naturalization.

There is but little doubt that the present bird is the oldest known species of the genus, for although Linnæus appears to have been unacquainted with it, it was described as long back as 1788–93 by Gmelin in the 13th edition of the "Systema Naturæ," under the name of *Tetrao Caspius*. By Latham, who states it inhabits Astrabad, Ghilan and other parts of Persia, it was placed among the true Partridges, genus *Perdix*; by Pallas it was associated with the Grouse under the name of *Tetrao Caucasicus*; Messrs. Jardine and Selby placed it in the genus *Lophophorus*, and lastly Mr. J. E. Gray instituted for it the separate generic title of *Tetraogallus*. Messrs. Jardine and Selby state, that for their knowledge of the species they were indebted to James Wilson, Esq., so well known for his "Illustrations of Zoology," to whom it had been transmitted from Persia by Dr. Macneil, the enlightened physician to the English Embassy at that Court, after whom it was named *Nigelli*, and who informed Mr. Wilson that "it inhabits the more secluded and mountainous parts of Persia, where it is esteemed rare even by experienced sportsmen, and is known by the name of *Keph-i-derree*, or *Mountain Partridge*."

I am indebted to J. H. Gurney, Esq. for having called my attention to the following passage in Mr. Layard's "Discoveries in the Ruins of Nineveh and Babylon," which doubtless refers to this species:—"A covey of large birds sailed with a rapid swoop, and with the whistling sound peculiar to the Partridge kind, from an opposite height, and alighted within a few yards of me. They were the *Kabk-i-dered*, or the *Our-kak-lik*, as they are called by the Turks; a gigantic Partridge, almost the size of a small Turkey, only found in the highest regions of Armenia and Kurdistan."

The following note has been forwarded to me by Mr. G. R. Gray, which he states is an extract from one of the St. Petersburg Transactions:—

"This species builds on the highest summits of the rocky mountains of the *Caucasus*; it prefers altogether the regions of snow, which it never quits; thus, when we desire to acclimatize the young chickens of this partridge in the plains of Kahetia, they have not survived the spring. It runs on the rocks and the ledges of precipices with great agility, and rises with a great cry at the least danger, so that the most

TETRAOGALLUS CASPIUS.

skilful sportsman cannot approach within shot but under cover of mists. It lives in societies of from six to ten individuals, becoming the inseparable companion to the Goat, on the excrement of which it feeds during the winter months. In autumn it grows very fat, and its flesh resembles that of the common Partridge. In the crop of this gallinaceous bird I have found a great quantity of sand and of small stones, mixed with all kinds of seeds of alpine plants."

Prince Charles Bonaparte informed me, that there is some reason for believing that this bird occurs within the confines of Europe; he did not, however, mention the locality in which it has been observed. I had also been told some years ago by an officer of one of Her Majesty's surveying ships employed in the Mediterranean, whose name I cannot recollect, that he had himself observed a bird of this form among the mountains in the island of Candia, where it was excessively rare, and only to be seen on the very peaks of the hills: as this is a point of some interest in the history of the birds of this genus, I would beg to direct the attention of travellers to the subject.

M. Brandt considers the *Chourtka alpina* of Motchoulski to be synonymous with this species; but as I have seen in the Museum of the Jardin des Plants at Paris a bird which I believe to be distinct, not only from the present species, but also from *T. Himalayensis*, *T. Altaicus* and *T. Tibetanus*, and which nearly accords with M. Motchoulski's description, I have omitted it from the list of synonyms until I have had further opportunities of investigating the subject.

Crown of the head, neck and the upper surface generally slaty brown, minutely freckled with dark brown; chest nearly uniform blue-grey in the male, variegated with zigzag markings of buff and brown in the female; wing-coverts and scapularies slaty brown freckled with black, margined narrowly on the inner side and broadly on the outer with buff, along which latter mark, on the greater feathers, is a streak of chestnut; primaries and secondaries white, largely tipped with blackish brown; tail dark brown freckled with black, stained in the centre and tipped with brownish red; feathers of the under surface greyish buff, with a double streak of buff and reddish brown along each margin, forming a series of stripes along the body; under tail-coverts white; cheeks and sides of the neck white, separated from the buff-coloured throat by a broad stripe of brown freckled with black; streak over the eye brownish buff; irides hazel; bill horn-colour; legs and feet orange-yellow.

The figures in the accompanying Plate, taken from life by Mr. Wolf, represent an adult male and a female about three-fourths of the natural size.

TETRAOGALLUS HIMALAYENSIS, *G. R. Gray.*

Himalayan Snow Partridge.

Tetraogallus Himalayensis, G. R. Gray in Proc. of Zool. Soc., Part X. p. 105.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 248.—Gray, List of Spec. of Birds in Brit. Mus. Coll., Part III. p. 30.

Tetraogallus Nigelli, J. E. Gray in Hardw. Ill. Ind. Zool., vol. ii. pl. 46.—Vigne in Proc. of Zool. Soc., Part IX. p. 6.

Lophophorus Nigelli, Jard. and Selb. Ill. Orn., vol. iii. pl. 141.

Kubuk Deri, Vigne, Travels in Kashmir, vol. ii. p. 18.

Tetraogallus caucasicus, G. R. Gray, List of Sp. and Draw. of Mamm. and Birds presented to Brit. Mus. by B. H. Hodgson, Esq., p. 126.—Hutton, Journ. Asiat. Soc. Beng., vol. xvi. p. 782.

As its name implies, this species is a native of the Himalayas, where it is spread over a vast extent of country, but appears to be most abundant along the southern dip of the mountains generally, as well as in the greater part of Tibet. In the Museum of the East India Company there is a specimen sent from Ladahk by Captain Strachey; and in the British Museum another obtained from St. Petersburg, which is believed to be from Siberia; the great water-shed of Asia must therefore be considered the native head quarters of the species. Mr. Vigne observed it in Cashmere, and states that "in the Himalayas behind Simla it inhabits the snowy panjabs on both sides of the valley, but is more common in the Tibets. This magnificent Partridge is about five times the size of the common English bird, and is generally of a grey colour, the feathers being edged with light reddish brown. I had several of them alive, and am confident that they might be brought down the Indus to England, as they thrived well so long as I looked after them myself."

The Himalayan Snow Partridge, which may be considered the most noble species of the genus, both as regards size and the variety of its markings, may be readily distinguished from its congeners by the conspicuous chestnut streaks on the sides of the neck, by the black and white scale-like feathers of the chest, and by the dark slate-colour of its under surface. It is this fine species especially that I should wish to see naturalized in Europe; and as it is the one most easily obtainable, surely it might be sent by way of Egypt without much trouble or expense either to the transmitter or to the receiver.

"These fine birds," says Capt. Hutton, "are common in the Huzzarah Mountains and other high ranges; they are called *Kowk-durra*, or Partridge of the ghats or passes. Sometimes they are sold in the markets of Cabool. I possessed four living birds at Candahar, which were kept with wings cut in a large court-yard and lived well for many months. I gave them to a friend, Captain M^{c}Lean, of the 67th Reg. N.I., who wished to take them home to the highlands of Scotland, but he unfortunately died on his way back to India, and I know not what became of the birds. They are common on the snowy passes of the Himalaya and in Tartary; rise in coveys of from ten to twenty, and usually have a sentry perched high on some neighbouring rock, to give warning of danger by his loud and musical whistle. They are difficult birds to shoot. I usually found them in patches of the so-called Tartaric furze."

Captain Boys, who procured examples on the 16th of May, 1842, immediately below the snow on Choping Peak above Mullarin, states that it is very strong on the wing, and that its flights are very protracted; its note he says resembles that of a Dipper (*Cinclus*), finishing with the cluck of a Chuckar (*Perdix Chukar*); during flight it emits a shrill whistle, somewhat similar to that of the Monaul (*Lophophorus Impeyanus*). Its weight is nearly six pounds.

The eggs, of which examples are contained in the British Museum and in the Collection of H. F. Walter, Esq., are about the size of those of a Turkey, but, like those of the Grouse, are of a more lengthened form; their ground colour is clear light olive, sparingly dotted over with small light chestnut spots: the length of the British Museum specimen is two and three quarters of an inch long by one inch and three quarters broad.

The sexes are alike in colouring, and may be thus described:—

Crown of the head and cheeks grey; over the eye a line of buffy white; round the throat a collar of red-

TETRAOGALLUS HIMALAYENSIS, G.R. Gray

J. Wolf and H.C. Richter del. et lith.

Hullmandel & Walton Imp.

dish brown, broad behind and narrow in front, into which pass two streaks of the same hue, one from below the angle of the mouth, the other from above and behind the eye; throat and space between these streaks dull white; across the breast a broad gorget of scale-like greyish feathers, each crossed by a broad band of black; below this gorget a series of whitish feathers without bands; at the back of the neck a broad crescent of grey, below which is a series of slaty feathers minutely freckled with buff; shoulders grey, minutely freckled with black; upper surface brownish grey, minutely freckled with black and with a broad stripe of dull buff down the margin of each feather; greater wing-coverts, tertiaries and scapularies brownish grey, minutely freckled with black and with a broad mark of chestnut-brown on the outer and a smaller mark of the same hue on the inner web, each fading into buff near the tip; primaries white, largely tipped with brownish grey, passing into buff at the extremity, and minutely freckled with black; tail grey on the interior, webs reddish, on the outer ones freckled with black and merging into a broad patch of the same hue, the tip being reddish; under surface slate-grey, minutely freckled with buffy brown, the feathers of the sides of the breast and flanks of a paler hue than on the centre and abdomen, and on each a double stripe of chestnut and black along their margins, forming a series of stripes on those parts of the body; vent and under tail-coverts white; thighs dark grey; bill dark horn-colour; irides dark brown; legs and feet red.

The figure, taken from a drawing by Mr. Wolf, is about three-fourths of the natural size.

TETRAOGALLUS ALTAICUS.

Altaic Snow Partridge.

Perdix Altaica, Gebler, Bull. de l'Acad. Imp. de St. Pétersb., tom. i. p. 31 ; and tom. vi. p. 30.
Perdix (Megaloperdix) Altaica, Brandt, Bull. de l'Acad. Imp. de St. Pétersb., 1840, tom. viii. p. 190.
Tetraogallus Altaicus, G. R. Gray, Proc. of Zool. Soc., Part X. p. 103.—Ib. List of Spec. of Birds in Brit. Mus. Coll., part iii. p. 30.
Tetraogallus caucasica, Gray and Mitch. Gen. of Birds, vol. iii. p. 503. pl. cxxix.
Perdix caucasica, Eversm. Addenda ad Pall. Zoogr., ii. p. 13.

All the examples of this species which grace the collections of central Europe have I believe been obtained by way of St. Petersburg, from the Russian possessions in the Altai Mountains. M. Brandt states in the Bulletin de l'Académie des Sciences de St. Pétersbourg, that he had seen ten specimens so much alike in colouring that they presented no important differences; and the three examples which have come under my own notice, one in the collection of H. E. Strickland, Esq., another in the British Museum, and a third in the Museum of the Jardin des Plantes at Paris, are all so nearly alike as to confirm M. Brandt's observation. The more decided grey colouring of the upper surface, the white flanks and the black hue of the lower part of the abdomen are the characters which at once distinguish this species from its congeners, and establish its specific value.

M. Gebler states that the Altaic Field Hen inhabits the mountains generally, but especially near the sources of the river Argut; that the length of the entire bird when fresh killed is twenty-six English inches; of the bill one inch and one line; of the head two inches and two lines; of the wings thirteen inches; of the middle toe and nail two inches and ten lines; and that the weight of a well-fed bird is six Russian pounds. From the assurances of the hunters there is but little difference in the colouring of the sexes. A strong dark grey, conical-pointed spur is found on the tarsi of the old male. Its food consists of the young shoots of alpine plants, seeds and insects. The stomachs of the specimens shot in winter, and examined by M. Gebler, contained small stones, roots, leaves, bits of sticks and buds of plants, besides which, in one instance, he found the remains of a cricket, proving that insects form part of their food.

Crown of the head dusky ash-grey; over the eye a stripe of white; sides of the head lighter ash-grey; throat white; neck ash-grey, pale in front, becoming gradually darker behind; upper surface, wing and tail-coverts dark brown, minutely freckled with pale buff; the feathers of the back, and especially of the wing-coverts, with a broad mark on the margin of the outer web and a smaller one near the tip of the inner web of buffy white; under wing-coverts very dark ash-grey; primaries white at the base, brownish grey for the remainder of their length; tail-feathers greyish, deepening into black towards the extremity, and slightly tipped with deep buff; feathers of the breast ash-grey, crossed near the tip by an irregular band of black, which extends down in a point to the end of the shaft, on each side of which is a large spot of white; these markings become larger, paler and less defined on the lower part of the breast; flanks and under tail-coverts white; centre of the abdomen mingled black and white, the black hue predominating on the lower part; thighs brownish black; bill blackish horn-colour; nostrils and eyelids pale flesh-colour; irides dark brown; tarsi and toes dusky orange; nails black.

The figure is about three-fourths of the natural size.

TETRAOPHASIS ALTAICUS.

TETRAOGALLUS TIBETANUS, *Gould.*

Tibetan Snow Partridge.

Tetraogallus Tibetanus, Gould, in Proc. of Zool. Soc. 1853.

Having in my account of the *Tetraogallus Caspius* dwelt at some length upon the great value of this group of birds to man, it is with no small degree of pleasure that I now introduce to my readers a figure and a description of an entirely new species, of which two examples have lately been transmitted to the Honourable East India Company, one by Captain Strachey from Ladakh, the other by Mr. Hodgson by way of Nepaul. This new species, to which I have given the distinctive appellation of *Tibetanus*, is the smallest member of the genus yet discovered, besides which its specific differences are both clear and distinct; of these the principal are, the uniform colouring of the primaries; the whiteness of the throat and front of the neck; the jet black striæ bordering the flank-feathers and under tail-coverts, and the bright orange bill and red feet.

At present we know nothing of its habits or the extent of its range over the elevated regions of which it is a native; in all probability it will prove to be an eastern representative of the Altaic and Caspian species, and the elevated ranges on the borders of China be found to be the head-quarters of this species.

For permission to name and figure this interesting addition to the *Tetraogalli*, I am indebted to the Directors of the Honourable East India Company.

Crown of the head, cheeks, back and sides of the neck dark slate-grey, washed with buffy on the orbits; ear-coverts buffy white; chin, all the front of the throat and the chest white; all the upper surface, wings and tail-coverts freckled buff, grey and black, the feathers of the middle of the back and the wing-coverts, especially the latter, broadly edged with pale buff; rump and upper tail-coverts washed with rufous; primaries greyish brown; secondaries tipped and broadly edged externally with white; breast crossed by a narrow band of grey, freckled with buff, and blotched with black; under surface white, the feathers of the flanks and lower part of the abdomen narrowly but conspicuously margined with jet-black, forming stripes along those parts of the body; thighs buffy grey, with a streak of brown down the centre of the feathers nearest the body; under tail-coverts black, with a broad stripe of white down the centre; tail very dark brown inclining to rufous at the tip; bill and feet orange-red.

The total length of the bird is twenty-two inches; of the bill one inch and a quarter; of the wing ten inches and a quarter; of the tail seven inches; of the tarsi two inches and a half.

The figure is rather less than the natural size.

TETRAOGALLUS TIBETANUS. *Gould*

J. Wolf and H. C. Richter, del. et lith.

Hullmandel & Walton Imp.

PHASIANUS REEVESII, *J. E. Gray.*

Reeves's Pheasant.

Phasianus Reevesii, J. E. Gray in Griff. Anim. Kingd., vol. iii. p. 25.—Id. Hardw. Ind. Zool., vol. i. pl. 39.—G. R. Gray, Gen. of Birds, vol. iii. p. 497, *Phasianus*, sp. 6.—Sclat. in Proc. of Zool. Soc. 1863, p. 117.—J. E. Gray, List of Spec. of Birds in Coll. Brit. Mus., part v. *Gallinæ*, p. 28.

Barred-tailed Pheasant, Lath. Gen. Hist., vol. viii. pl. cxxiv*.

Phasianus veneratus, Temm. Pl. Col. 485.—Jard. Nat. Lib., vol. xiv. pl. xvi.

——— *superbus*, Jard. Nat. Lib., vol. xiv. p. 202.

Syrmaticus Reevesii, Wagl. in Isis, 1832, p. 1229.—G. R. Gray, Cat. of Gen. and Subgen. of Birds in Brit. Mus., p. 104.—Bonap. Compt. Rend. de l'Acad. Sci., tom. xlii. séance du 12 mai 1856.

——— *superbus*, Strickl. in Ann. & Mag. Nat. Hist., 1841, vol. vii. p. 36.

Considerable confusion respecting the nomenclature of this remarkable species has been occasioned by the late M. Temminck having in his 'Histoire Naturelle Générale des Pigeons et des Gallinacés' assigned its two lengthened tail-feathers to the old *Phasianus superbus* of Linnæus, an error which he subsequently corrected when describing and figuring the bird in his 'Planches Coloriées' as *P. veneratus*. In the interval between the publication of the two works above mentioned, Dr. J. E. Gray named it *Phasianus Reevesii*, in honour of the late Mr. John Reeves, a gentleman ardently attached to natural science, who, during his many years' residence in China, contributed so largely to our knowledge of the productions of that highly interesting country; and this name it is now by common consent allowed to retain, on the score of priority to that of *veneratus*.

The error of M. Temminck was adopted by Dr. Latham; and hence, while the description of the Barred-tailed Pheasant in his 'General History of Birds,' vol. viii. p. 196, has reference to the old *P. superbus*, some of his remarks apply to the present species. It is probable that the bird did not escape the notice of the celebrated traveller Marco Polo, since he states "There be plenty of Feysants and very great for 1 of them is as big as 2 of ours with Tayles of eygth, 9 and ten spannes long from the Kingdom of Erguyl or Arguill, the W. side of Tartary"; but I question if he ever saw more than the central tail-feathers, which, being held in high estimation by the Chinese, were deemed suitable presents to foreigners, and hence these feathers found their way to Europe many years before the entire bird; the time however arrived when, through the instrumentality of Mr. Reeves, we were favoured with the sight of the skin of a perfect male (which, as above mentioned, Dr. Gray dedicated to him), and some years later of a female.

To him we are also indebted for the introduction of the first living bird into Europe, a fine male specimen having been imported by him about the year 1831. The son of this gentleman, Mr. John R. Reeves, brought over a female in 1838; "and the pair," says Mr. Tegetmeier, in the 'Field' for June 7, 1867, "were living in the Gardens of the Zoological Society at the same time; but the male being unfortunately an aged bird, they did not breed." The next living example that reached this country was a fine male, received direct from China by John Kelk, Esq., in 1862, and which roamed in perfect liberty and in excellent health for two successive years among other pheasants at his seat, Stanmore Priory, near Edgware.

Out of evil comes good; and thus war, with all its horrors, is the precursor of extended knowledge. The productions of the vast empire of China were but the other day so little known to the man of science that it was only by surmise, by grotesque drawings, and the receipt of remarkable feathers of birds that he formed any idea of its ornithology; the late war, however, has placed Europeans and the inhabitants of the "celestial empire" upon a different footing; and we now not only get skins of this fine pheasant, but living examples in considerable numbers—so abundantly, in fact, that at this moment (May 1868) the bird is being successfully bred in more than one menagerie both in England and on the continent.

"The successful introduction of the living birds now in this country," says Mr. Tegetmeier, in the No. of the 'Field' above referred to, "is owing to the combined efforts of Mr. John J. Stone and Mr. Walter H. Medhurst, H. M. Consul at Hankow. For several years past Mr. Stone had made continuous efforts to obtain this and other new pheasants from Northern China, with no satisfactory result, until the valuable aid of Mr. Medhurst was obtained; and it is mainly due to that gentleman's thorough knowledge of the natives of China and of their language that the true habitat of this bird was ascertained and its introduction accomplished. Mr. Medhurst employed an experienced Chinaman to proceed into the interior for the express purpose of collecting this and other rare pheasants, of which coloured drawings had been supplied for his guidance. The first three lots obtained, with a single exception, all died before they reached England. The fourth was obtained in the direction of Syechney, about thirty days' journey from Hankow; and of these, seven

PHASIANUS REEVESII, J.E.Gray

J.Gould. & H.C.Richter, del. & lith.

Walter Imp.

Reeves's Pheasants were landed here alive and deposited in the Zoological Gardens; Mr. Stone has since received several others, which are located in his pheasantries. In sending home these birds Mr. Medhurst was anxious that the Queen should have early possession of specimens; and in compliance with this wish one male and two females were offered to and graciously accepted by Her Majesty, and they are now in the aviaries at Windsor Castle."

That the *Phasianus Reevesii* is likely to breed in and ornament our aviaries for many years to come, there can be little doubt; for its native country, the neighbourhood of Pekin, and the British Islands being nearly in the same parallel of latitude, our climate cannot be an uncongenial one. Besides the locality above mentioned, the bird is also said to be found in the Taihoo district of Central China, on the north side of the Yang-tsze-Kiang.

Latham mentions that he saw at Sir Joseph Banks's some fine drawings taken from Lady Banks's curious collection of ancient porcelain, wherein is represented a mock fight on the water for the Emperor's amusement, supposed to be between his Tartarian and Chinese subjects, personated by the females in his seraglio,—the chieftains of the former having one of the barred feathers of this species on each side of the bonnet (perhaps as an insigne of one order), the opponents or Chinese having two feathers of a Pheasant of a smaller kind, probably of the Golden one; and hence he concludes that the present bird is a native of Tartary, and not unlikely to be as common there as the other is in China.

As every scrap of information respecting a bird of which so little is known is of interest, I copy the following extract from the 'Wanderings in New South Wales, &c.,' of Dr. George Bennett:—

"In Mr. Beale's splendid aviary and garden at Macao the beautiful *Phasianus veneratus* of Temminck, the *P. Reevesii* of Gray, now commonly known by the name of Reeves's Pheasant, was seen. It is the *Chee Kai* of the Chinese. The longest tail-feathers of this bird are six feet in length, and are placed in the caps of the players when acting military characters. This I observed in Canton, where some of the beautiful tail-feathers (rather in a dirty condition, like the actors themselves, who in their tawdry dresses reminded me of the chimney-sweeps in London on a May-day) were placed erect on each side their caps as a decoration. The Chinese do not venerate this bird, as was first supposed, and which may have caused Temminck to bestow upon it the name of *veneratus*; but it is superstitiously believed that the blood of the bird is possessed of poisonous properties, and that the Mandarins, when in expectation of losing their rank and being suddenly put to death by order of the Emperor, preserve some of it upon a handkerchief in a dried state, on sucking which they fall down and instantly expire.

"Mr. Beale's first male specimen, obtained in 1808, was kept in a healthy state for thirteen years; after its death he endeavoured to procure others, but did not succeed until 1831, when four specimens were brought from the interior of China, and purchased by him for 130 dollars; these were, I believe, subsequently taken to England by Mr. Reeves."

I am greatly indebted to James J. Stone, Esq., of Scyborwen, Llantrissent, for his kindness in submitting to my inspection examples of this and many other fine Pheasants when they unfortunately die in his aviary.

The male has the crown of the head, a spot under the eye, chin, and a broad collar round the neck white; forehead, face, a V-shaped mark on the throat, a broad collar round the base of the neck, centre of the abdomen, and under tail-coverts jet-black; feathers of the upper surface and breast buffy yellow, each feather with a crescent of black at the tip; centre of the wing black, with a mark of snow-white in the centre of each feather; flanks rich chestnut, mottled with white and black; primaries blackish brown, mottled with buff; tail silvery grey, margined with tawny buff, and crossed with numerous bands of black and chestnut, those on the two central feathers being about sixty in number; bill and raised nostrils pale pea-green; legs and toes nearly uniform pale horn-colour; spurs nearly black at tips; naked skin before, above, and behind the eye blood-red.

The female has the parts of the head and neck, with the exception of the crown, yellowish buff, in lieu of white as in the male; back of the neck beautifully marked with black, chestnut, and white, the latter of a spear-shaped form in the centre of each feather; chest and flanks light chestnut-brown, with pale grey edgings and trifurcated centres; centre of abdomen and under tail-coverts light buff; wings mottled brown and black, each feather with a narrow streak of buff down the centre; rump dark, freckled brown, with a dark streak down the centre; five or six of the outer tail-feathers on each side rich chestnut, crossed by irregular bands of black and white, and largely tipped with white; central tail-feathers freckled brown and black.

The annexed Plate represents both sexes nearly of the size of life, with the exception of the splendid feathers of their tails, which are of necessity omitted; but their relative proportions are well shown in the reduced figures in the distance. The length of the two central feathers of the male varies considerably in different individuals, some being nearly six feet long, while others are only four or five. The female, as is the case with the females of other Pheasants, is considerably smaller than the male, and has a relatively shorter tail.

PHASIANUS COLCHICUS, *Linn.*

Common Pheasant.

Phasianus Colchicus, Linnæus et Auctorum.

The generic term *Phasianus* has been applied to so many different forms of the *Gallinaceæ* that it will be desirable to indicate the species to which scientific ornithologists now restrict it. By Linnæus, the Domestic Fowl, the Golden and Silver Pheasants, and many other allied forms were characterized under this appellation; in the present work I have applied it to seven species; but other ornithologists limit it to four, namely *P. Colchicus* of Asia Minor, *P. torquatus* of China, *P. Mongolicus* of Tartary, and *P. versicolor* of Japan,—the other three species being *P. Sæmmeringii* and *P. scintillans* (for which the generic name of *Graphephasianus* has been proposed by Dr. Reichenbach) and *P. Reevesii* (the only known species of Wagler's genus *Syrmaticus*). That both the Asiatic and European shores of the Black Sea are the true home of the Common Pheasant, there can be, I believe, but little doubt: the ancient Colchis, from which the specific name is derived, is the Mingrelia of the present day; and there it is said to be still found wild and in unequalled beauty; neither is it improbable that it is found in equal numbers around the Caspian, and even further to the eastward. The Rev. T. Milner, in his 'Ancient and Modern History of the Crimea,' remarks, "It is singular that the Pheasant does not occur in the Peninsula, although found on the opposite side of the narrow strait of Kertch, and all over the Caucasus." The late Mr. G. T. Vigne informed me that he shot it in a wild state at the Lake of Apollonia, about thirty five miles from Broussa, to the south of the Sea of Marmora.

In a letter received from the late Mr. T. W. Atkinson, that gentlemen says:—"In answer to your inquiries about the Pheasants seen by me in Asia, I beg to inform you that I found the common species on the Kezzil-a-Gatch in considerable numbers; I have also seen several that were brought from the country to the west of the river Ilia. In all my wanderings in the Altai I did not find a single Pheasant, or any bird resembling it."

The food of the Pheasant in a wild state consists of grain, seeds, green leaves, insects, and the roots of bulbous plants.

The Pheasant makes a slight nest on the ground, in which it deposits from ten to fourteen eggs of a uniform olive-brown colour, one inch and ten lines long, by one inch and five lines in breadth.

The male has the head and nape bronzy green; neck and throat steel blue, with reflexions of brown, green, and purple, according to the incidence of the light; ear-coverts dark brown; feathers of the upper part of the back rich brownish red, with black centres, light shafts narrowly edged with a velvety black, and an oblong spot of the same on the centre of the tip; those of the back and scapularies purplish red, with black centres, within which is a pointed horseshoe-shaped mark of pale buff, and a narrow line of the same colour down the shaft; lower part of the back and upper tail-coverts deep chestnut-red, with purple reflexions; wing-coverts light greyish brown, with paler shafts; primaries dull greyish brown, crossed by interrupted bars of cream-colour; tail-feathers yellowish brown, crossed by numerous narrow transverse imperfect bars of black, and washed with chestnut and purple on their outer margins; breast and abdomen golden red, each feather margined with velvety black and reflecting tints of golden and blue; lower part of the abdomen, vent, and under tail-coverts brownish black; bill dull pea-green; legs and toes horn-colour.

The upper surface of the female is blackish brown, with each feather conspicuously margined with creamy white, a few of the feathers at the base of the neck with chestnut centres; chin brownish white; under surface brownish buff, the flank-feathers variegated with dark brown and reddish buff.

The figures, which represent the two sexes considerably less than the natural size, were taken from specimens killed in Asia Minor.

PHASIANUS COLCHICUS. *Linn.*

J. Wolf & H.C. Richter del. et lith.

Walter Imp.

PHASIANUS SHAWI, *Elliot.*

Shaw's Pheasant.

Phasianus shawi, Elliot, P. Z. S. 1870, p. 403.—Id. Monogr. Phasian. ii. pl. 1 (1872).—Scully, Str. F. 1875, p. 433.

Phasianus insignis, Elliot, P. Z. S. 1870, p. 404.—Id. Monogr. Phasian. ii. pl. 3 (1872).

Mr. R. B. Shaw, whose interesting work on High Tartary, Yarkand, &c. is doubtless known to my readers, brought back from his expedition to the latter country three imperfect skins of Pheasants, which, having been submitted to Mr. Elliot, were pronounced by that gentleman to belong to two undescribed species; and these were accordingly named by him *P. shawi* and *P. insignis* respectively. For a highly instructive dissertation on the origin of the different kinds of true Pheasant I must refer my readers to Mr. Elliot's 'Monograph,' and must confine myself here to reproducing a very important article which has just appeared in 'Stray Feathers' from the pen of Mr. J. Scully, who, I think, succeeds in showing that *P. shawi* and *P. insignis* are referable to one and the same species:—

"During my residence in Eastern Turkestan I had abundant opportunities of observing the Yarkand Pheasant; I saw at least from thirty to forty of these birds alive, kept some in confinement for months, and have lately been looking over a series of twenty-four skins—nine in my own collection, and fifteen belonging to Mr. R. B. Shaw. While in Kâshgharia I often tried to make out whether there were two species of Pheasants there; but, as I was not aware of the precise grounds on which Mr. Elliot had separated the birds, I could not very well decide; my impression, however, was certainly in favour of one species only. I heard that the distinction was supposed to be the extent to which the breast-feathers were edged with green; but as hardly two birds could be found exactly alike in the matter of this edging, I felt satisfied that the species must have been founded on something much more definite and constant than that character.

"On going over my specimens a few days ago with Mr. Hume, that gentleman expressed his opinion that all my skins belonged to one species, although he pointed out that one of the birds had less green on the chest than the others. I then examined Mr. Shaw's collection, and found that three of his birds corresponded with the one noted by Mr. Hume; and this determined me to look at Mr. Elliot's work to see what he had said about the matter.

"The first point that struck me in regard to the plates of *Phasianus insignis* and *P. shawi* in Mr. Elliot's magnificent work was, that both the birds were erroneously represented as having conspicuous red lappets, or wattles, which the Yarkand Pheasant certainly never has at any season; the head should have been represented like that of *P. colchicus*, with a bare crimson orbital skin always at a lower level than the feathers of the cheek. The second piece of information I derived from the plate was that the bird having the green of the neck sharply terminated at the upper breast was the one called *P. shawi*, while the one having the green reflections extending all down the chest was *P. insignis*. I tried to find out from the text whether Mr. Elliot pointed out any distinction between his two species; but as this was not obvious on a first reading, I copied down his descriptions of the corresponding parts of *P. insignis* and *P. shawi* in opposite columns, underlined the discrepancies, and sat down to study the subject with my specimens before me. So far, then, I had ascertained what form was called *P. insignis* and what *P. shawi*; and with the two collections of twenty male Pheasants I could roughly set aside sixteen which would be called by Mr. Elliot *Phasianus insignis*, and four which I presume he would have accepted as *P. shawi*. The next point was to put down in words what the distinctions between the two sets really were. To take Mr. Elliot's descriptions first, I found that what he said would apply generally to birds in both series; and, indeed, I could only fix on six salient points:—

"*a*. *P. insignis* more brilliant than *P. shawi*. Nothing could be made out of this; for in the twenty birds not even three could be found exactly alike in this respect: some of the specimens were most gorgeous; and the worst were never dull.

"*b*. The tippings of the feathers of the back, scapulars, breast, and flanks *green* in *P. insignis*, *blue* in *P. shawi*. A careful comparison of the birds showed that this would not hold at all, some of the latter series having the tippings quite green, and many of the former series very blue.

"*c*. Centre of abdomen and thighs in *P. insignis* black, in *P. shawi* brownish black. This also would not hold; some *P. shawi* had the abdomen black or greenish black, and one or two *P. insignis* brownish.

"*d. P. insignis* has the tips of the under tail-coverts washed with green. My *P. shawi* series was certainly devoid of this character; but, on the other hand, in at least seven of *P. insignis* also not a trace of it was present.

"*e.* In *P. shawi* the rump has greenish reflections. But so had the majority of my specimens of *P. insignis*.

"*f.* Lastly, feet and tarsi of *P. insignis* blackish brown, of *P. shawi* greyish. This does not hold good: some of my *P. shawi* series had darker feet and tarsi than *P. insignis*; and many of the latter had the legs and feet lightish grey.

"Having failed to discover that Mr. Elliot's description would help us to uphold two species, I next ventured to try if I could not find something distinctive myself. I started several points, the wing-coverts the edgings of the feathers of the lower back, the colours of the thighs, &c.; but they really would not answer; the series were alike in these respects. The following three points were the last and most promising:—

"1. Three specimens of *P. insignis* had a narrow half-collar of white almost continuous at the back of the neck. This was interesting as bearing on Mr. Elliot's statement that the bird was allied to *P. mongolicus*, but was of no value as a distinctive character, as it was not constant, and, besides, one of the *P. shawi* series showed the beginning of this white streak also.

"2. The shaft of the tail-feathers in one *P. shawi* was alternately dusky and yellowish white; in *P. insignis* it was dusky throughout. Now, I thought, if this be only constant throughout the two series, it will, taken with

3. *The one marked point*—the abrupt termination of the green of the neck, so well shown in Elliot's figure of *P. shawi*, though not exactly mentioned by him in words—satisfy one that there are two species of Pheasants in Yarkand.

"To test this, I began to draw the birds out of the covers. The first had the shaft variegated; and on turning it round to look at the breast it proved to be *P. shawi*. The second gave a like result. The third showed the shaft of the tail-feathers dusky throughout, and the characters of *P. insignis* as to breast: this became exciting. The fourth had the shaft dusky and yellowish, and the breast—Eh! what? *P. insignis* or *P. shawi*? I rushed to the window to get a good light on the subject. Mortifying result! It was impossible to tell by its breast whether it were *P. shawi* or *P. insignis*; it was intermediate. Another specimen was tried; it had the tail-shaft dusky throughout, and it was also intermediate as to the breast. It must be given up! I have only one species represented by my entire series of specimens.

"It seems scarcely possible that there should be really two species of Pheasants in Yarkand, and that during a residence of ten months there I should only have come across one of them; besides, as I have explained above, I really think that I *have* some of the birds in the slightly different states of plumage which are shown in Mr. Elliot's two plates. Now I know by the dates on the tickets of my specimens that this slight variation is not due to season; and I can therefore only suggest that it may be a question of age—a view which the length of the spurs seems to confirm. The heads of the birds are alike; so are the measurements; and intermediate forms occur; but as I feel sure Mr. Elliot must have had some weighty reason for making two species out of the skins he received, I should be glad to know what the distinctions on which he relies really are. If there really are two species, I can only say that they so closely resemble each other as to make it impossible to discriminate them without being told in what points they differ, that they are both found in the same localities in a small tract of country, and that the natives (who are exceedingly good at discriminating species, as I know from my personal experience) have only one name for them—*Kirghaul*. The majority of the specimens I have seen approximate most to the plate of *P. insignis*; but if, as I believe is the case, there be only one species of Pheasant of Yarkand, I feel sure that Mr. Elliot will be the first to agree that it should stand as *Phasianus shawi* in honour of Mr. R. B. Shaw, who was the first to introduce this beautiful Pheasant to the notice of Europeans."

I am indebted for the loan of the fine pair figured in the Plate to the kindness of Captain Biddulph, who shot them himself during the Mission to Yarkand under Sir D. Forsyth.

The figures are somewhat less than the size of life.

PHASIANUS CHRYSOMELAS, *Severtzow.*

PHASIANUS CHRYSOMELAS, *Severtz.*

Oxus Pheasant.

Phasianus chrysomelas, Severtz., Ibis, 1875, p. 493; Elliot, Ibis, 1876, p. 131.

Dr. Severtzoff, the celebrated Russian traveller, discovered this fine species of true Pheasant during his travels in Central Asia, under the circumstances narrated by him in detail below. Mr. Elliot, who has made a special study of the Pheasants, states in a letter to 'The Ibis' (*l. c.*) that the title of *P. chrysomelas* must sink into a synonym of his *P. insignis*, founded on an imperfect specimen from Yarkand. Whether, if this eventually turned out to be the case, Mr. Elliot's name, founded on an admittedly mutilated skin and incorrectly figured in his 'Monograph,' would be allowed to take precedence over the more exact description of Dr. Severtzoff's, I leave to other ornithologists to determine; but if the conclusions of Mr. Scully, published in 'Stray Feathers,' are correct, then *P. insignis* is not distinct from *P. Shawi*, which is said to be the only Pheasant in Yarkand. I cannot bring myself to believe that *P. chrysomelas*, at any rate, can be a stage of *P. Shawi*; but perhaps the careful figures now published will enable Mr. Hume and other Indian naturalists to make further comparisons and determine this interesting point.

The following very full account of the species I owe to the kindness of Dr. Severtzoff:—"I found *P. chrysomelas* on the river Amoo (Oxus), and on the lower parts of the same river, from the end of the Karakol, its most eastern arm, along the sandy country up to our new fort Petroalexandrowsk, on the right bank of the stream opposite Khiva,—also on the branches of the delta, as for instance Keghili, Koowansh-djerma, Lake Sarg-kul, &c. I possess also information that it is common upon all the branches of the Oxus delta without exception, including the most western, Taldyk: here it is very abundant near Kungrad, and is precisely similar to those found near Petroalexandrowsk. It also occurs on the left bank of the Oxus, and the great channels of Khiva, in fact everywhere where it finds sufficiently large jungles undestroyed by cultivation; these, however, are rare to the south-west of the Oxus delta. I do not know its limit above that river; but I think it not improbable that this beautiful bird will still be found in the jungles of Balsk and Kundooz.

"It lives only in dense thorny jungle near the water, and is therefore confined to the valley and delta of the Oxus. Its range is bounded on the north-east by the sand-waste of Kysilkoom, which separates its habitat from that of *P. mongolicus*, and to the south-west by the Turcoman desert, which separates it from *P. persicus*.

"My observations on the habits of this Pheasant extend from the month of July to the middle of October. In July they come out from the jungle every morning and evening for the purpose of feeding, and both at sunrise and after sunset their screams may be heard in the bushes; but day by day towards the end of that month they are seen less and less, and remain more concealed in the thickets. The males are now fast moulting, and the females also, but in a less degree, the latter being then occupied with their chickens. At this time neither males nor females sit on the trees as they do later on, but remain always on the ground; and, from the foot-prints in the mud, I opine that at this season of the year the moulting Pheasants are actively pursued by the marsh-cat (*Felis chaus*). During the night, however, the birds retreat to such thickets as render the noiseless approach of their enemy impossible.

"The chicks of this Pheasant, like those of other Gallinaceous birds, are continually moulting until they are fully grown. I have no specimens newly hatched; but from analogy with *P. mongolicus*, I think that they must have quills when still in down. When they have attained the size of a Quail, their first feathers are already nearly full-grown, though some have still blooded roots; such specimens I have obtained at the end of July and in August, whence I opine that the female still has eggs in May and the early part of June. If so, she is a late breeder, like *P. mongolicus*.

"The birds, as soon as the moult is ended, gather in small flocks, consisting of males, females, and young; some old males, however, remain single. This association begins with the first days of October, but is not very strictly kept up. During the day, numbers of them often disperse amongst the bushes, a flock of from ten to fifteen specimens occupying a space of as many acres; and on being disturbed they fly up one at a time. They keep more together when feeding in open places, as, for instance, on the stubble-land. They eat the seeds of *Eleagnus*, *Halimodendron*, and *Alhagi*. Near the open spaces covered with the last-named thorny grass they conceal themselves amongst the Tamarisk bushes, in which they find shelter, but no food. Besides these wild seeds, they eat in autumn every kind of cultivated corn, particularly *Panicum miliaceum*,

as well as peas and lupins. In order to obtain *Alhagi* seeds, I have seen this Pheasant frequenting the Saxaul woods (*Holoxylon ammodendron*) near the river Karakol. On the Syr (Jaxartes) all these haunts are frequented by *Phasianus mongolicus*; but this bird is also very commonly found in the dense reeds of summer-drying swamps, a kind of locality in which I never met with an Oxus Pheasant. The flocks of this last species, though often dispersed during the day, gather themselves together more closely at night, which they generally pass in the densest bushes, as in summer. I have also found them assembling for the night on the walls of abandoned and deserted farm-yards, which on the Oxus, as well as in Turkestan, are built of clay, in the form of small fortresses.

"In the autumn, and in all probability in the winter too, this Pheasant feeds the whole day long, and grows very fat, even before the moult is finished; whereas in summer, as we have seen, it feeds only in the morning and evening, resting during the heat of the day in the shade of the jungle. Its flesh is white and tender, rendering it a first-rate bird for the table. When flushed, it flies at first perpendicularly with a great noise about ten or twelve yards high in the air, then horizontally at the same height for about a hundred yards, and at last sinks obliquely into the jungle, where it is not easy to find again, even though the spot be correctly marked; its flight is very short and heavy, though rapid. In dense bushes it will run in front of the sportsman, until it decides on flight; in open spaces also it runs out of reach of shot; and winged birds can go at a great rate of speed. In some places, such for instance as the Karakol and near the Dankara Lake, they are plentiful enough to be hunted profitably without a dog; but this is not the case where they are scarcer, as near Petroalexandrowsk. A dog, however, is more useful to scent out where a Pheasant is hidden in the bush, as it is not much use trying to follow a dog in the jungle, especially as a Pheasant never makes a stand, but keeps on running continually before the dog, just as a Landrail does. I have never seen a dog bring one of these Pheasants to perch, as is related of *P. colchicus* in the Caucasus; and indeed *P. chrysomelas* is eminently a ground-bird, perching only exceptionally, although commencing to do so at an earlier season than *P. mongolicus*. This latter species I have only seen perch in the depth of winter, viz. on two occasions in January 1875, and never before, during many years of observation. Both the species mentioned were seen to perch only in *Eleagnus* trees.

"The female of *P. chrysomelas* is, both in proportions and general colouring, exceedingly like the female of *P. mongolicus*; on an average, however, the head is smaller, the bill and the feet more slender, and the toes somewhat shorter; but these characters vary with individuals of both species, as also do the details of coloration. The only difference that I found to be more constant is to be noticed in the black markings of the hind neck (cervix); the female of *P. chrysomelas* has each feather on this part marked with a single black horse-shoe of variable shape, while the female of *P. mongolicus* has two large transverse oval spots: but the three females of *P. chrysomelas* which I possess can scarcely be considered sufficient to fix these characters as constant."

In conclusion I may state that the figure in the plate is taken from one of Dr. Severtzoff's typical specimens, given by him to Mr. Osbert Salvin. From Mr. Salvin this fine bird passed to my own collection, which contains a complete series of this group of birds.

My readers will have no difficulty in perceiving the masterly hand of Mr. Wolf in the outline of both the drawings of Pheasants in the present part.

The principal figure on the accompanying Plate is about one tenth less than the natural size.

PHASIANUS SOEMMERINGI.

PHASIANUS SŒMMERRINGII, *Temm.*

Sœmmerring's Pheasant.

Phasianus Sœmmerringii, Temm. Pl. Col. 487, 488.—Sieb. Temm. et Schleg. Fauna Japonica, p. 104.—Sclat. Proc. Zool. Soc. 1863, p. 117.—Gray, List of Spec. of Birds in Coll. Brit. Mus., part iii. p. 24.—Id. Gen. of Birds, vol. iii. p. 497, *Phasianus*, sp. 6.

Graphephasianus Sœmmerringii, Reichenb.—Gray, Cat. of Gen. and Subgen. of Birds in Brit. Mus., p. 104.

Graphophasianus Sœmmerringii, Bonap. Compt. Rend. de l'Acad. des. Sci., tom. xlii. séance du 12 Mai 1856.

Our first knowledge of the existence of this fine Pheasant is due to Dr. von Siebold, who was so long a resident at the Dutch factory at Decima, in Japan. The venerable Temminck took advantage of the Doctor's mission, and obtained, through his instrumentality, numerous specimens of this and many other rare birds. The collection thus obtained formed the nucleus, if not the entirety, of the celebrated 'Fauna Japonica,' in the production of which, Von Siebold, Temminck, Schlegel, and De Haan united their labours from 1833 to 1846. From 1830, when Siebold left Japan, until that island was thrown open to the world at large, few, if any, additional specimens of this bird were transmitted to Europe, until about 1860; since that date, however, not only have numerous skins been brought thence, but several attempts have been made to introduce the living bird, some of which resulted in failure, while others were attended with success; and the bird now adorns our aviaries and has even bred in the Gardens of the Zoological Society of London and in those at Antwerp. In a note received from Mr. Bartlett, the Society's Superintendent, dated from their Gardens in the Regent's Park, April 11, 1867, he says "Sœmmerring's Pheasant bred here in June 1865. The female laid about ten eggs; but only three or four birds were hatched, and these died in a few days. The bird also bred in the Gardens at Antwerp, under the care of M. Vekemauns; but I am unable to say if the young arrived at maturity. In both places the males exhibited a strong inclination to destroy the females; and we came to the conclusion that this species is ill-adapted to breed in captivity." The extreme pugnacity of the male has also reached me from another source, whence I learn that not only do they fight with each other, but destroy their own females. We have yet to ascertain if this disposition would continue to be exhibited were the bird allowed to roam at large: the experiment ought to be made; and this is a subject which should receive attention from the Acclimatization Society. That the bird is very numerous in Japan is certain; for Mr. Whitely had no difficulty in obtaining as many examples as he required in the markets of Nagasaki.

The sexes differ even more considerably from each other in outward appearance than do those of *Phasianus Colchicus* and its near allies.

It will be seen that I have not adopted Dr. Reichenbach's generic name of *Graphephasianus* for this bird, though I might have done so with propriety, since these Copper Pheasants, as they are called, differ in many respects from the more typical members of the genus *Phasianus*.

The reasons given by Temminck for naming this bird *Sœmmerringii* are embodied in the following passage from the 'Nouveau recueil de planches coloriées des Oiseaux' of that celebrated ornithologist.

"Cette espèce remarquable et nouvelle, de l'ordre des Gallinacés, nous fournit une occasion favorable de présenter l'expression de notre hommage empressé à un homme célèbre, à un vieillard respectable, à un anatomiste distingué, qui, par ses travaux scientifiques et par l'aménité de sa vie privée, répandit le goût de l'étude, et fait chérir son commerce agréable. Puisse la dédicace de cette espèce offerte à M. le professeur de Sœmmerring, être accueillie par ce doyen des naturalistes, comme l'expression de la haute estime qu'il inspire aux amis des sciences, qui s'empressèrent de fêter à Francfort, le 7 Avril 1828, le jubilé donné en son honneur, à l'occasion du cinquantième anniversaire de sa carrière doctorale!"

The male has the whole of the upper surface and throat of a fine coppery brown, with a lighter border to each feather, which in some lights appear of a purple hue, in others rich coppery red, and in others, again, bright but deep flame-colour, this latter tint being especially conspicuous on the lower part of the back and upper tail-coverts: this is the general appearance. On examining each feather singly, it is found to be grey at the base, dark rich brown in the middle, with a broad stripe down the centre and on each side of dark coppery brown, with a lustrous stripe on each side of the tip; wing-coverts the same, but devoid of the lustre at the tips; a few of the greater coverts with a narrow bar of creamy white at the tip, within which is a still narrower one of black; primaries dark brown, crossed by irregular broken bands of a tawny hue; secondaries dark brown, freckled near the tip with tawny, and with a large patch of deep rufous near the end of the outer web, becoming much paler at the extremity, on the tips at the inner webs of several of them the double mark of white and black as on the greater coverts; tail rich chestnut red, with black shafts, and

crossed at intervals of about two inches with a narrow irregular band of black and a second broader and more decided band of the same colour, the space between the bands being of a similar but paler tint than the body of the feather; the second band of black, moreover, becomes broader, and gradually blends with the general colour of the feathers as they approach the extremity; on some the intermediate pale band is white; feathers of the under surface marked like the upper, but the bordering is not luminous, and terminates in dull grey, within which, on the lower part of the sides of the abdomen, is a narrow line of white; eye-orbits red; bill horn-colour; feet bluish horn-colour.

The female has a patch of dark brown at the back of the head, with a narrow bordering of rufous at the end of each feather; feathers of the head and upper surface generally mottled with rufous, with a narrow edging of black at the tip, and with a stripe down the centre, which on the sides of the neck and shoulders is white, and on the other parts deep buff; rump and upper tail-coverts deep rust-red, each feather faintly barred with dark brown; some of the wing-coverts marked at the tip with black and white, as in the male, but the marks are broader and not so pure; throat deep buff; feathers of the under surface brown, largely striped down the centre, and tipped, with pale or creamy buff, and bordered on each side with tawny; tail short, central feathers greyish brown, freckled with dark brown; lateral feathers rufous, crossed obliquely near the tip with dark brown, beyond which the end is white.

The Plate represents the two sexes, about two-thirds of the natural size.

PHASIANUS SCINTILLANS, *Gould.*

Sparkling Pheasant.

Phasianus (*Graphophasianus*) *scintillans*, Gould in Ann. and Mag. Nat. Hist., vol. xvii. 3rd ser. p. 150.

When writing on the Humming-birds, I frequently had occasion to remark that ornamental display formed a very important feature among those ornithological gems, that it had little or no influence on their habits and economy, that it was almost universally accorded to the male sex, and that it was assigned to some particular part in all the members of a genus, that part being thus rendered more highly ornamental than the rest: thus the fine colouring is conferred upon the crown in some species, forms a rich gorget on the throat of others, is displayed in lengthened plumes on the sides of the neck, or shines conspicuously on the lower part of the back; in others, again, the tarsi and even the under tail-coverts are adorned with plumes the structure and appearance of which are totally different from those of the other parts of the body. To these remarks I may add that this law of ornamentation appears to prevail in a greater or less degree in all great families of birds, no matter whether it be the Penguins which sport on the salt seas, or the Pheasants of the flower-spangled woods. There is no one, I should suppose, who has not witnessed the display made by the gorgeous Peacock when he quivers his train before the female, and but few who have not seen the wonderfully expanded frill of the Golden Pheasant during the love-season of that bird.

Among Pheasants, the common species, *Phasianus colchicus*, the Ring-necked, *P. torquatus*, and the Green, *P. versicolor*, are adorned with highly coloured fleshy eye-orbits, and during the spring time, at least, with very prominent egrets; these they have the power to, and do display in a most remarkable manner. On the other hand, the bird here represented, and its near ally, the *P. Sæmmerringii*, have neither their egrets nor such extensive and highly coloured orbits; but these deficiencies are amply compensated by the feathers of the lower part of the back and upper tail-coverts (which are seldom covered with the wings) being perfect in their structure and most richly coloured; here, in fact, and in their singularly marked tails lies the principal beauty and attractiveness of these two remarkable birds. I have said that each of the little groups of birds which systematists designate 'genera' is marked by some special peculiarity; I may add that observation informs me that usually these genera are composed of more than one species. In *Pavo* (Peacocks) there are two or three; in *Thaumalea* (Golden Pheasant &c.) also two or three; in *Gennæus* (Silver Pheasant) two; in the common type of Pheasants (*Phasianus*) four—*P. mongolicus*, *P. colchicus*, *P. torquatus* and *P. versicolor*. Hundreds of similar instances might be quoted. Having received so fine a bird as the *P. Sæmmerringii*, why should we be surprised at the discovery of a second species of the same form, a form which has been separated from the true Pheasants by Dr. Reichenbach, under the name of *Graphephasianus*? So far from it, when we consider how limited is our knowledge of the natural productions of that comparatively sealed country Japan, we ought rather to feel surprise if this had not been the case.

Nothing, I regret to say, is known of its habits or of the locality frequented by the *P. scintillans*, further than that all the specimens which have been sent to this country are from Yokohama, while those of *P. Sæmmerringii* are from Nagasaki, parts of the country 800 miles distant from each other.

The male has the head and neck coppery brown, with a lighter border to each feather, which in some lights appear of a purple hue, and in others rich coppery red; feathers of the lower part of the neck behind and all the upper surface of the body dark brown, with a stripe of coppery red down the centre, and on each side two oblique lines, the inner one of coppery red, the outer glossy orange, between which at the tip is a spot of fiery red; on the sides of the back and upper tail-coverts the glossy orange marks are exchanged for white, and the fiery red spots more lustrous, rendering those parts most conspicuous; on the scapularies the coppery red is very apparent, and those feathers, moreover, are edged with white on each side of the tip; the greater wing-coverts are similar in their colouring, but the white is duller and less decided; primaries brown, crossed by irregular narrow bands of buff; secondaries dark brown freckled with buff, and with a large patch of rufous near the end of the outer web, fading into greyish white at the tip, those nearest the body with an irregular band of black within the white along the interior web and at the tip; tail crossed at intervals of about two inches by, first, a band of brown speckles on a buffy white ground, which, coalescing on the posterior side, form a narrow irregular line of brown; to this succeeds a narrow band of buffy white, then a band of black, and lastly a broad one of deep chestnut-red; in the interspaces between these bands the tail is pale cinnamon-brown; it is to be remarked, too, that although the bands are alike on each web, they are not quite in a line, the one on the outer vane being a little lower than the other; feathers of the under surface dark brown, with a line down the centre and the end cinnamon, bordered at the tip with creamy white, within which is a narrow line of black; under tail-coverts black, with a mark of deep chestnut-red at the tip.

The figures are about two-thirds of the size of life.

PHASIANUS TORQUATUS.

PHASIANUS TORQUATUS, *Temm.*

Chinese Ring-necked Pheasant.

Phasianus torquatus, Temm. Pig. et Gall. tom. ii. p. 326 et tom. iii. p. 670.—Gray, List of Birds in Coll. Brit. Mus. part iii. p. 23.—Gray and Mitch. Gen. of Birds, vol. iii. p. 497, *Phasianus*, sp. 2.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 245.—Gray, Ill. Ind. Zool. pl.

——— *Albo-torquatus*, Bonnat. Ency. Méth. Orn. part i. p. 184.

China is the true and probably the restricted habitat of this beautiful species of Pheasant; for although various writers have stated that it is a native of India, we have no reliable evidence of its existing in a state of nature in any part of that great country.

Of the introduction of living examples into England, numerous instances are on record. Latham, in his "General History of Birds," states that it is said to have been "first introduced by the late Duke of Northumberland, and many were bred and turned out at his Grace's seat at Alnwick. Lord Carnarvon did the same at Highclere, in Berkshire, and the late Duchess Dowager of Portland at Bulstrode, Bucks." More recently it has been introduced upon the estates of other noblemen and gentlemen, and I am told is now very numerous on that of the Earl of Stamford and Warrington. The consequence of this introduction has been a cross between the Chinese bird and its near ally the Common Pheasant (*Phasianus Colchicus*), producing the variety or varieties known by the name of Ringnecks, and now so commonly killed in our woods. As a matter of course, these hybrid birds do not closely accord in their markings with either of the true breeds; nor do they form a permanent variety; no two, in fact, even from the same district, exhibiting precisely the same character; some specimens having their necks adorned with a well-defined ring, while in others it is narrow and imperfect; the flank-feathers too assume an intermediate tint, and never present the pure pale buff colouring of those feathers in the *P. torquatus*, or the dark colouring of *P. Colchicus*. These details, though apparently trivial, may not be regarded as unimportant when we take into consideration the interest so generally evinced with respect to these varieties of the Pheasant; and the fact, that by the mingling of the two species a prolific offspring has been produced;—a circumstance, however, which must be regarded as an exception to the general rule, for I believe that in few instances and with few forms would such a result occur.

Some six or seven years ago, living examples of this species direct from China were added to the menagerie of the Zoological Society of London, where they bred in such abundance as to admit of a distribution of eggs and individuals to the owners of estates in various parts of England. In some situations they readily crossed with the ordinary Pheasant, the produce being birds similar to the Ringnecks of the English preserves.

Long prior to any recorded instance of the introduction of the *P. torquatus* into England, a few pairs were landed at St. Helena, where, the vegetation being congenial to the habits and economy of the bird, they throve amazingly, and in certain parts of the island they soon became and are even now very numerous. From an examination of the skins kindly forwarded to me by Lady Ross, the drawings of Major Stack, and a fine living male sent direct from the island, and now living in the Gardens of the Zoological Society, I find that these birds do not differ from Chinese examples, except in being rather larger in size and in having a more lengthened tail, which may probably be due to the abundance of berries they obtain from a kind of bramble common on the island: no trace or taint of the *P. Colchicus* being observable, it would seem that China alone has furnished the pheasants now so numerous at St. Helena. I am also indebted to the kindness of Lady Ross for the following extracts from "Brooks's History of St. Helena," respecting the introduction of the Pheasant into the island:—

"In 1513, Fernandez Lopez was left in exile with a few negroes at St. Helena, as a punishment (after being maimed) for deserting from the army of Alphonso Albuquerque at Goa, in India. These were the first inhabitants of the island. Roots and vegetables of various kinds, fruit-trees and poultry were accordingly landed for them, and partridges, pheasants, guinea-fowl, peacocks and other birds let loose. Under the fostering care of Lopez they increased abundantly, and in a few years overspread the face of the country." Captain Cavendish, who visited the island on the 8th of June 1588, found "no less plenty of pheasants,

which are also very big and fat, surpassing those which are in our country in bigness and numbers in a company."

Several fine skins of both sexes were sent to this country by the late Captain Ince, R.N., of H.M.S. "Pilot"; and others have been transmitted to J. R. Reeves, Esq., of Clapham; all these specimens were procured in the neighbourhood of Shanghai, where the species appears to be very common.

Although Gmelin probably first proposed the specific term for this bird, it was M. Temminck who pointed out the differences which occur between it and the Common Pheasant, and stated that, in his opinion, the Chinese bird is the one to which the term *torquatus* should be applied, his observations having satisfactorily proved to him that it is quite distinct from the *P. Colchicus*. He remarks, that "it is of much smaller size, its length from the tip of the beak to the extremity of the tail never exceeding two feet five inches, which is six inches less than the total length of the Common Pheasant; the expanse of the wings is also less, and the tail is much shorter in proportion to the size of the body." He further states, that the circumstance of its breeding in a state of semi-domestication with the common species and producing fertile offspring is no proof of the two birds not being specifically distinct. In this opinion I entirely concur, and, like M. Temminck, also believe that in a state of nature such a union would never take place.

As this bird is likely hereafter to play no inconspicuous part among the game-birds of the British Islands, a word or two on this point may not be out of place here. If it could be kept quite pure, it would doubtless prove a most interesting addition to our woods, since its plumage is variegated and beautiful, and its flesh very delicate and high-flavoured; the aptitude, however, of the males to wander in search of fresh scenes and other females renders this a matter of great difficulty. It is somewhat delicate in its constitution, and consequently not so well adapted for our variable climate. When raised in cover, its flight is bold, straight and arrow-like, mounting through the branches with great celerity, and often flying to a considerable distance before it again enters the cover.

The eggs are of a pale olivaceous stone-colour, and considerably smaller than those of the Common Pheasant, being one inch and eleven-sixteenths long by one inch and three-sixteenths broad.

I cannot conclude without recording my obligations to the Earl of Craven for a very fine series of Pheasants from his Lordship's preserves at Coombe Abbey, near Coventry, an examination and comparison of which with the true *P. Colchicus* and *P. torquatus* have greatly assisted in the elucidation of the subject.

The male has the forehead deep green; crown of the head fawn-colour, glossed with green; over each eye a conspicuous streak of buffy white; the naked papillated skin of the orbits and sides of the face deep scarlet or blood-red, interspersed beneath the eye with a series of very minute black feathers; horn-like tufts on each side of the head, throat and neck rich deep shining green with violet reflexions; near the base of the neck a conspicuous collar of shining white feathers, narrow before and behind, and broadly dilated on the sides; the feathers of the back of the neck black, with a narrow mark of white down the centre of the basal portion, and a large lengthened mark of ochreous yellow within the edge of each web near the tip; the feathers of the back and scapularies black at the base, with a streak of white in the middle, then buff surrounded with a distinct narrow band of black, to which succeeds an outer fringe of chestnut; feathers of the back black, with numerous zigzag and crescentic marks of buffy white; lower part of the back, rump and upper tail-coverts light green of various shades, passing into bluish grey on the sides, below which is a mark of rufous; breast-feathers indented at the tip, of a rich reddish chestnut with purple reflexions, and each bordered with black; flanks fine buff, with a large angular spot of beautiful violet at the tip; centre of the abdomen black, with violet reflexions; under tail-coverts reddish chestnut; wing-coverts silvery grey; wings brown; the primaries with light shafts, and crossed with narrow bars of light buff; the secondaries similar, but the markings not so regular as in the primaries; tail-feathers olive, fringed with different shades of reddish violet, and crossed at regular intervals with broad conspicuous black bands, passing into reddish on the sides of the basal portion of the six central feathers; bill yellowish horn-colour; irides yellow; feet greyish white.

The female has the whole of the upper surface brownish black, with a margin of buff to every feather; the throat whitish, and the central portion of the under surface fawn-colour; flanks mottled with brown; tail buff, barred with dark brown, between which are other interrupted bars of the same hue; these marks are broader on the two central feathers than on the others, and moreover do not reach the edge on either side.

The Plate represents the bird nearly the size of life.

PHASIANUS VERSICOLOR, *Vieill.*

PHASIANUS VERSICOLOR, *Vieill.*

Japanese Pheasant.

Phasianus versicolor, Vieill. Gal. des Ois., tom. ii. p. 23. pl. 205.—Temm. Pl. Col. 486 & 493.—Gray and Mitch. Gen. of Birds, vol. iii. p. 497, *Phasianus*, sp. 3.
——— *Diardi*, Temm. Pl. Col. in Text to *P. versicolor*.

In writing the history of a species of Pheasant, which, if I mistake not, is hereafter destined to become an object of interest and importance to the sporting communities both of this island and of the temperate portions of the continent of Europe, it will be well first to state the country of which it is a native, and the probable date of its discovery. Up to the present time then, 1857, we have no positive evidence that the bird is found elsewhere than in the Island of Japan; yet, from the information I have received from two different sources, it would seem that it also occurs in China. Professor Brandt, the celebrated naturalist of St. Petersburg, when in England a few months since, informed me that a similar Pheasant was certainly known to Pallas, who, as every one is aware, extended his travels to the confines of China; but I have never met with any record of it in the writings of that author; the circumstance of its being known to him must rest, therefore, on Professor Brandt's testimony. On showing a Japanese specimen to Mr. Webb, a gentleman who has long resided in China, he informed me that, to the best of his belief, it was a native of that country, and was quite certain that he had seen two kinds there—one having a white collar, the *Phasianus torquatus*; the other without such a distinguishing mark: if this ringless bird should prove to be a species at present unknown, I hope ere long to have the pleasure of giving a figure of it in the present work.

It would seem that when that Nestor of ornithologists, M. Temminck, published his "Histoire naturelle générale des Pigeons et des Gallinacés" in 1813, this bird was not known, as no account of it is to be found therein; figures of both sexes, however, were published in his subsequent and more valuable work, the "Planches Coloriées des Oiseaux," from specimens sent direct from Japan to Holland by Dr. Siebold; but Vieillot appears to have been the first author who assigned it a specific appellation, taking his description from an example in the Museum of the Jardin des Plantes, to which in all probability it had been sent either by Dr. Siebold or M. Temminck, to whom in fact all the collections in Europe are indebted for the specimens they contain of this fine bird.

About the year 1840 living examples were brought from Japan to Amsterdam, and of these a male and a female were purchased by the late Earl of Derby at a very high price; unfortunately the female died before reaching the menagerie at Knowsley, leaving the Noble Earl in possession of the male only. No other example having been brought to England, it is from this single male and a female of the common species that all the green Pheasants, now becoming so numerous in the British Islands, have sprung. The produce of the first cross was of course a half-breed; the old male being placed again with these half-breeds, the result was a three-quarter race; and these breeding again with the old bird, the produce became as nearly pure as possible.

On the dispersion of the late Earl of Derby's living collection, the old cock and the purest portion of his progeny were purchased by Prince Demidoff, and, with the exception of a pair left with Mr. Thompson, then superintendent of the Knowsley Menagerie, were sent to Italy. John Henry Gurney, Esq., of Norwich, and other gentlemen, became the possessors of the less pure stock. Some of Mr. Gurney's birds were turned out in the woods at Easton, and all the eggs which were laid in his aviary were also hatched in the preserves, thus giving rise to the Norfolk varieties.

Mr. Thompson's birds annually producing numerous eggs, he has been enabled to distribute living birds to various persons, both in this country and abroad. Although not without a taint of foreign blood in their veins, these birds and their offspring are so similar to examples killed in their native country that they are not distinguishable.

The *P. Colchicus*, the *P. torquatus*, and the *P. versicolor* readily breed with each other, and, contrary to the usual course of nature, the progeny of either two are capable of reproduction. The results which have arisen from this introduction of fresh blood among our old stock of semi-domesticated Pheasants is perfectly amazing; producing, as it has done, an increase in size and flavour, and marvellously beautiful variations in the colouring of the plumage, the principal hues of which correspond with those of that species, the blood of which predominates.

In form, habits, and disposition, the *P. versicolor* assimilates more nearly to the Common Pheasant of our

woods than the *P. torquatus*, and moreover does not exhibit that inclination to wander, so characteristic of the Ring-necks, a circumstance much in its favour. Nothing, however, can be more uninteresting to the man of science than the mongrel varieties produced by the introduction of these new Pheasants, which bid fair to increase so rapidly, that I have little hesitation in saying, in twenty years from this time nothing like a true species will be found in this country; this, however, will be of little moment, since they may be obtained in those portions of the globe which form their natural habitat; namely, *P. Colchicus* in Asia Minor, *P. torquatus* in China, and *P. versicolor* in Japan.

I cannot close this paper without returning my thanks to John Henry Gurney, Henry Kelsall, and G. D. Berney, Esqs., for several interesting varieties of these pheasants.

The male has the forehead, crown and occiput purplish oil-green; ear-tufts glossy-green; chin, throat, sides and back of the neck glossy changeable bluish-green; back of the neck, breast, and under surface deep shining grass-green, with shades of purple on the back of the neck and upper part of the breast; feathers of the back and scapularies chestnut with buffy shafts, and two narrow lines of buff running round each, about equidistant from each other and from the margin; lower part of the back and upper tail-coverts light glaucous-grey; shoulders and wing-coverts light greenish-grey washed with purple; primaries brown on the internal web, toothed with dull white at the base, outer web greyer and irregularly banded with dull white; tertiaries brown freckled with grey, and margined, first with greenish-grey, and then with reddish chestnut; centre of the abdomen and thighs blackish-brown; tail glaucous-grey, slightly fringed with purplish, and with a series of black marks down the centre, opposite to each other at the base of the feathers, where they assume a band-like form; as they advance towards the tip they become gradually more and more irregular, until they are arranged alternately, and in like manner gradually increase in size; on the lateral feathers these marks are much smaller, and on the outer ones are entirely wanting, those feathers being covered with freckles of brown; orbits crimson-red, interspersed with minute tufts of black feathers; eyes yellowish-hazel; bill and feet greenish horn-colour.

Compared with the female of the Common Pheasant, the hen of the present bird has all the markings much stronger, and is altogether of a darker colour. She has the whole of the upper surface very dark or blackish-brown, each feather broadly edged with buff, passing in some of the feathers to a chestnut hue; those of the head, and particularly of the back, with a small oval spot of deep glossy-green close to the tip; primaries and secondaries light brown, irregularly barred with buff, and with buffy shafts; tertiaries dark brown, broadly edged with buff on their inner webs, and mottled with dull pale chestnut on the outer web, the edge of which is buff; tail dark brown, mottled with buff and black on the edges, and crossed by narrow irregular bands of buff bordered on either side with blotches of dark brown; on the lateral feathers the lighter edges nearly disappear, and the bands assume a more irregular form; throat buff; all the remainder of the under surface buff, with a large irregular arrow-head-shaped mark near the top of each feather; thighs similar, but the dark mark nearly obsolete.

The Plate represents the two sexes about three-fourths of the natural size, from a drawing by Mr. Wolf.

PHASIANUS SEMISTRIATUS. Brandt

PHASIANUS MONGOLICUS, *Brandt.*

Mongolian Pheasant.

Phasianus Colchicus, var. *Mongolicæ*, Pall. Zoogr., tom. ii. p. 84.
——— *Mongolicus*, Brandt, Bull. des Sci. de St. Pétersb., tom. iii. p. 51.

As any additional information relative to the history of the typical Pheasants cannot fail to be of interest to various classes of the community, I have considerable pleasure in giving a figure of a very fine bird of this genus, at present scarcely known even to the scientific world. The obscurity in which it is involved is due to the small amount of European intercourse with the distant country of which it is a native, and the little we do know respecting it is derived from Pallas and other Russian travellers and naturalists.

I am indebted to Professor Brandt, of the Imperial Academy of Sciences of St. Petersburg, a gentleman distinguished for his profound acquirements in many branches of natural history, not only for a very beautiful skin of this species, but for the following note, which I give in his own words. I am also indebted to the intrepid Siberian traveller, Mr. Atkinson, for some notes respecting the Pheasants seen by him during his journey, and which doubtless have reference to the present bird and the *Phasianus Colchicus*.

"The *Phasianus Mongolicus*," says Professor Brandt, "is the variety *Mongolicæ* of the *Phasiani Colchici* of Pallas (Zoographia, vol. ii. p. 84), of which that naturalist has himself said, at p. 85,—'Dubius hæreo an hanc avem pro varietate *Ph. Colchici* vel pro distincta specie tradam;' but I am satisfied that it is quite distinct, both from that bird and from the *P. torquatus*; I have therefore assigned to it the specific designation of *Mongolicus*. Independently of the localities mentioned by Pallas, the *P. Mongolicus* is also found in Tarbagatai and in the Altai, and is doubtless spread over the country lying to the westward."

"In answer to your inquiries about the Pheasants of Asia," says Mr. Atkinson, "I beg to say that I first observed them on the wooded banks of the Lepsou, a river which falls into the Balkash; these had the white ring round their necks; they were also seen in vast numbers on the borders of all the small rivers and in the wooded ravines in the great horde of Kirghis, which stretch along the foot of the Alatou Mountains. Further to the west, on the Kezzil-a-gatch, I found the Common Pheasant in considerable numbers; I have also seen several that were brought from the country to the west of the river Ilia. After extending my journey to the Gobi Desert, south of the Tangnou Mountains, I again found them on the small rivers of Mongolia, and these also had the white ring."

We have now therefore a knowledge of the existence of four very distinct, but nearly allied species of true Pheasants, which, contrary to the usual course of nature, will probably cross with each other in a state of semi-confinement, the produce of which, if not prolific with each other, will be so with their parents on either side; the four species are, *Phasianus Mongolicus*, *P. torquatus*, *P. versicolor*, and *P. Colchicus*. Of these the most powerful is the *P. Mongolicus*, the native country of which is Mongolia and Chinese Tartary, while that of *P. torquatus* is Eastern China, *P. versicolor* Japan, and *P. Colchicus* Asia Minor and Western Asia.

The *P. Mongolicus* differs from all the other species above enumerated in its larger size, in the glaucous colouring of its shoulders, and particularly in the narrow and well-defined barrings of its tail-feathers; it has the lunate mark of white on the neck much broader than in *P. torquatus*; and it also differs from that bird in the absence of any buff colouring on the sides, or of any black colour on the abdomen.

The male may be thus described:—Crown of the head and nape greenish bronze, in some lights very strongly tinged with purple; sides of the head and neck green; round the back of the neck a broad lunate mark of pure white; feathers of the base of the neck and upper part of the back bronzy red, with a small, nearly triangular mark of black at the tip of each; remainder of the back-feathers chestnut-red, broadly margined with greenish bronze; shoulders or lesser wing-coverts glaucous white; greater coverts grey, with white shafts, on either side of which are two irregular marks of chestnut, which advance towards each other and meet near the apex of the feather; primaries brown, margined externally with buff, and toothed internally with greyish white; secondaries greyish brown, mottled with darker brown, and broadly margined with chestnut, some of the feathers having a broad whitish stripe down the centre; breast and under surface fiery chestnut-red, each feather broadly margined with bronzy green; those of the flanks crossed at the tip by a line which in some lights is black and in others brilliant green, the extent of this mark increasing as the feathers proceed towards the vent; these flank feathers are moreover of a more fiery chestnut hue than the other parts of the body; centre of the abdomen and the thighs, which are densely clothed, reddish brown, glossed on the tips of the feathers with green; tail-feathers bronzy red, crossed by numerous narrow bars of black, bordered on each side by a lighter line of bronzy red than the body of the feather; all the tail-feathers fringed with bronzy green; the hue of the longer tail-feathers becomes paler towards the tip and the bands greatly increased in breadth; under tail-coverts deep red.

Total length, 3 feet 3 inches; bill, $1\frac{5}{8}$ inch; wing, $10\frac{1}{4}$ inches; tail, 2 feet 1 inch; tarsi, $3\frac{3}{8}$ inches.

The female I have never seen; but there are specimens in the Museum at St. Petersburg; one collected by M. Kareline, at Semipalatinsk in Siberia, near the Chinese frontier, in the collection of M. Hauptman Kinchhoff; and another in the Museum at Bremen, which latter, Dr. Hartlaub informs me, is somewhat darker in colour than the female of *P. Colchicus*.

The figure is about two-thirds of the natural size.

ITHAGINIS GEOFFROYI J. Verr.

J. Gould & H. Richter del. et lith.

ITHAGINIS GEOFFROYII, *J. Verr.*

Geoffroy's Francolin

Ithaginis Geoffroyii, J. Verr. Bull. Soc. d'Acclim., 2de série, 1867, tom. iv. p. 706.—Elliot, Mon. of Phas. pl. .
—Gray, Hand-list of Birds, part ii. p. 264.—Swinh. Proc. Zool. Soc., 1871, p. 400.

It is always a matter of great interest to ornithologists when a new species is discovered of a form of which there was previously but a single representative known; and it is of equal interest to me to publish in the 'Birds of Asia' figures of both sexes of the new bird here represented thus early after its existence has been placed on record. Figures and descriptions, together with all the information that has been acquired respecting the bird, have also recently appeared in Mr. Elliot's fine 'Monograph of the Phasianidæ;' and it is with the kind permission of that gentleman that I transcribe and give below the account therein published.

In my history of the older known species, *Ithaginis cruentus*, I have assigned to it the trivial name of Sanguine Francolin, while Mr. Elliot, regarding the present bird as a member of the *Phasianidæ*, gives to it that of Geoffroy's Blood-Pheasant. Mr. G. R. Gray, on the other hand, places the two species among the *Perdicinæ*; thus it will be seen that a difference of opinion exists as to the place this singular and interesting form should occupy among the *Gallinaceæ*; their general contour and the existence of two or more spurs on each of their tarsi induce me to associate them with the Francolins.

The following is Mr. Elliot's account of *Ithaginis Geoffroyii*:—

"This Blood-Pheasant, being only the second species of the genus yet known to ornithologists, was first obtained by M. Dabry, Consul of France at Hankow, who sent his specimens to the Acclimatization Society of Paris. It is not so handsome a bird as its relative, but is interesting as being the only representative of the Himalayan species yet discovered. M. Verreaux, in an article published in the Bulletin of the Acclimatization Society of Paris, says of this Pheasant that 'it is easy to see, by the description we give of the two sexes, that the species is very distinct from the typical one found upon the mountains of the Himalaya, described first by General Hardwicke, in the Linnean Transactions, under the name of *Phasianus cruentus*, and later, by Temminck, in the Planches Coloriées, as *Perdix cruenta*—only that the individual described by the latter author as a female was merely a young male without spurs, having a brown plumage, darker than that of our new species. We are happy to bestow upon this beautiful bird (the second of a genus remaining so long with but a single representative) the illustrious name of Geoffroy as a mark of our esteem and friendship for M. Albert Geoffroy St.-Hilaire. It was in the north of China that this fine bird was met with.' No account of the habits or economy has been furnished us; but, doubtless, as the adventurous naturalists who are pursuing their investigations in those remote parts become more familiar with it in its native haunts, they will forward full accounts of its mode of life, which cannot fail to be interesting to all lovers of Gallinaceous birds.

"Père David, who visited Moupin, in North China, after M. Dabry, sent to the Museum at Paris a perfect series, containing many specimens of all ages and both sexes, of this species."

Male.—Top of the head lead-colour; front and line over the eye extending nearly to the ears black; cheeks lead-colour, with a central streak of white; throat rufous; wing-coverts pale green; shafts white, margined on each side with black; secondaries grey, mottled near the edges; primaries brown, all the shafts white; underparts grey; centres and ends of feathers light green; base of feathers black, with grey margins; abdomen greyish brown; tail greyish brown, the feathers edged with red; under tail-coverts black at base, the rest deep red; shafts white; bill black; bare space about the eye, and feet and legs, blood-red.

Female.—Top of the head, back, and sides of neck lead-colour; front and throat rufous brown. Entire upper parts brown, finely mottled with light brown; rump slightly lighter than the back; underparts reddish-brown, finely mottled with black; tail blackish brown, finely mottled with light brown and whitish; under tail-coverts blackish, with fine lines of light brown; bill black; feet and legs red.

The Plate represents a male, of the natural size, with a reduced figure of a female in the distance.

ITHAGINIS CRUENTUS.

ITHAGINIS CRUENTUS.

Sanguine Francolin.

Phasianus cruentus, Hardw. Linn. Trans., vol. xiii. p. 237.
Sanguine Pheasant, Lath. Gen. Hist., vol. viii. p. 205.
Perdix cruentata, Temm. Pl. Col. 332.
Ithaginis cruentus, Wagl. in Isis, 1832, p. 1228.—Gray and Mitch. Gen. of Birds, vol. iii. p. 504, *Ithaginis*, sp. 1.—Cat. of Spec. and Draw. of Mamm. and Birds presented to Brit. Mus. by B. H. Hodgson, Esq., p. 126.—Blyth, Cat. of Birds in Mus. of Asiat. Soc. Calcutta, 241.—List of Birds in Brit. Mus. Coll., Part III. p. 31.
Francolinus cruentatus, Cuv. Règn. Anim., tom. i. p. 484.—Less. Traité d'Orn., p. 505.—Jard. Nat. Lib. Gallinaceæ, vol. ii. pl. 7.
Perdix cruentatus, Jard. Nat. Lib. Gallinaceæ, vol. ii. p. 90.
Phasianus Gardnerii, Hardw. Linn. Trans., vol. xv. p. 166, female.
Lophophorus Gardneri, Less. Man. d'Orn., tom. ii. p. 180.
Ithaginis Gardneri, Wagl. in Isis, 1832, p. 1228.

The *Ithaginis cruentus* is a gallinaceous bird peculiar to the great Himalayan range, and may be regarded as one of the finest species of the group inhabiting that region; it differs from them all in structure and also in the distribution of its colouring; the propriety therefore of Wagler's constituting it the type of a distinct genus is very apparent. So great is the dissimilarity of the sexes, that the late Major General Hardwicke, to whom we are indebted for our first knowledge of the species, described them as distinct, under the specific appellations of *cruentus* and *Gardneri*: the information he was enabled to furnish respecting it was very meagre, and I regret to say that up to the present time little more has been acquired. When speaking of the male, he says: "This fine species is a native of the Nepaul Hills, and it is to the liberal contributions of the Honourable Edward Gardner, Resident at the Court of Nepaul, that I am indebted for the opportunity of describing it." Of the female he remarks—

"This singular bird is a native of the Snowy Mountains north of the valley of Nepaul, and was procured through the zealous exertions of my friend Dr. Nathaniel Wallich, aided by the influence of the English Resident at Katmandoo (the Honourable Edward Gardner), without which no single article, of however little value, is obtainable from that jealous people the Nepaulese. It is the only subject of its kind obtained during Dr. Wallich's sojourning at Katmandoo, and from its scarcity at that place it may be deemed one of the rarities of the country."

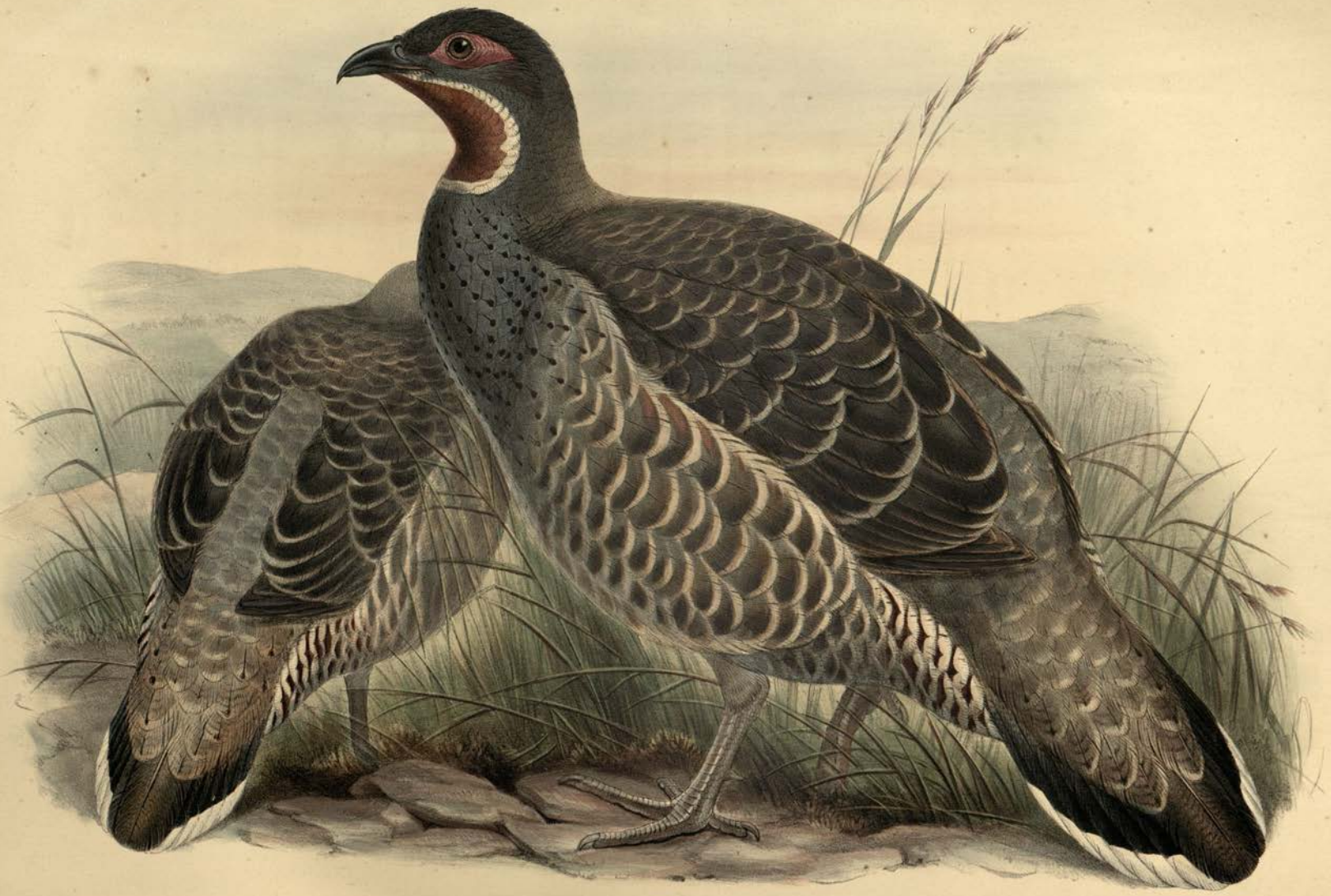
The native habitat of the species has been more recently visited by Dr. Hooker, who has kindly furnished me with the following notes respecting it:—

"This, the boldest of the Alpine birds of its kind, frequents the mountain ranges of Eastern Nepaul and Sikkim at an elevation varying from 10,000 to 14,000 feet, and is very abundant in many of the valleys among the forests of Pine (*Abies Webbiana*) and Juniper. It seldom or ever crows, but emits a weak cackling noise. When put up it takes a very short flight and then runs to shelter. During winter it appears to burrow under or in holes amongst the snow, for I have snared it in January in regions thickly covered with snow at an altitude of 12,000 feet. I have seen the young in May. The principal food of the bird consisting of the tops of the pine and juniper in spring, and the berries of the latter in autumn and winter, its flesh has always a very strong flavour, and is moreover uncommonly tough; it was, however, the only bird I obtained at those great elevations in tolerable abundance for food, and that not very frequently. The Bhoteas say that it acquires an additional spur every year; certain it is that they are more numerous than in any other bird, and that they are not alike on both legs: I could not discover the cause of this difference, neither could I learn if they were produced at different times: I believe that five on one leg and four on the other is the greatest number I have observed."

The male has the forehead, lores, and the feathers surrounding the orbits black; crown of the head buff; crest dull grey, with a stripe of buff down the centre of each feather; back of the neck and upper surface dark grey, with a narrow stripe of buffy white, bounded on either side with a stripe of black, down the centre of each feather, the stripes becoming larger and more conspicuous as they proceed backwards, and with a tinge of green on those occupying the lower part of the back and the centre of the greater wing-coverts; tail grey, fading into greyish white at the tip, the shafts white, and the basal three-fourths of the feathers broadly margined with blood-red; throat blood-red; ear-coverts black, striated with buffy white; lower part of the throat brownish black, with a stripe of greenish buff down each feather; sides of the neck buff; breast, sides of the abdomen and flanks very pale green with light shafts, and the feathers of the breast with a blotch of deep blood-red near the centre of either margin, giving the part the appearance of being stained with blood; centre of abdomen, thighs and vent dark brownish grey, striped with greenish white bounded by black; under tail-coverts deep blood-red, with a narrow line of pale yellow ending in a spatulate form at the tip, down the centre of each feather; orbits red; legs and feet deep red; base of the bill and nostrils red; tip of the bill black.

The female has the face, ear-coverts and throat rust-red; remainder of the plumage reddish brown, minutely freckled with black; tail dark brown freckled with black and buff; under surface similar, but redder than the upper.

The figures represent the two sexes of the natural size.



TETRAOPHASIS OBSCURUS.

TETRAOPHASIS OBSCURUS.

Mou-Pin Snow-Partridge.

Lophophorus obscurus, J. Verreaux, N. Arch. Mus. v. Bull. p. 33, pl. vi. (1869).
Tetraophasis obscurus, Elliot, Monogr. Phasian., i. pl. xxi. (1871).—Swinhoe, P. Z. S., 1871, p. 399.—David, N. Arch. Mus. vii. Bull. p. 95 (1871).

Père Armand David and Mr. Swinhoe really seem to have been rivalling each other for the last few years in the discovery of new and undescribed species of birds from the Chinese Empire. The subject of our plate, however, would have probably remained in obscurity for years to come, had it not been for the adventurous French missionary, who has visited not only the parts of China usually accessible to Europeans, but also the most outlying portions on the frontiers of Thibet, and the distant provinces of the interior. The present species was procured by him in Mou-Pin, and must be regarded as one of the most interesting of his discoveries. Although placed by its original describer in the genus *Lophophorus*, of which it exhibits certain peculiarities, it cannot be denied that it is closely allied to the Snow-Partridges (*Tetraogallus*), to which Mr. Elliot likewise recognizes its affinity.

All that has hitherto been recorded of the habits of the species is embodied in a short note of Père David's, published in the 'Nouvelles Archives' of the Paris Museum, as above quoted.

Writing on the game-birds of Mou-Pin, he observes:—"The splendid *Lophophorus Lhuysii* frequents the elevated prairies which surmount the region of forests, as at Kokonoor, at an altitude of 4000 metres; but the species is not at all numerous. The *Tetraophasis obscurus* and *Ithaginis Geoffroyi* stop lower down, in the middle of the woods, which they never leave, any more than *Pucrasia xanthospila*, which is also found in these mountains. As regards the magnificent *Thaumalea Amherstiæ*, it is found in the woods where the wild bamboos grow in abundance, between an altitude of 2000 and 3000 metres. The *Thaumalea picta* lives a little lower still, towards Setchuan, and avoids the localities affected by its congener of the white- and blue-bauded hood. *Ceriornis Temminckii* and *Phasianus decollatus* (which for me is only a variety of *P. torquatus*) are the most abundant Pheasants of the whole west of the Chinese Empire; the inhabitants snare them in the thickets and woods of the smaller mountains."

The accompanying account of the species is extracted from Mr. Elliot's 'Monograph of the Phasianidæ.'

"This curious bird is one of the late discoveries of the French missionary Père David, and was described by M. Jules Verreaux in the Archives of the Museum of Paris as *Lophophorus obscurus*. It cannot be considered to belong to that genus, although in some characters it resembles its members, but represents an entirely new genus, and apparently connects a portion of the Phasianidæ with the Snow-Partridges or *Tetraogalli*."

"M. Verreaux says, 'This species, which at first sight calls to mind the appearance of *Tetraogallus*, was sent to the Paris Museum in the last collection of R. P. David, who discovered it in his journey to Thibet. The five individuals, representing different ages and sexes, prove not only that the species is new to science, but also that it belongs to the genus *Lophophorus*, in which we have not hesitated to place it. It only remains for us to know the habits of the bird, which we shall, without doubt, find in the notes which are on their way, our indefatigable traveller having been ill when he sent the last collection.'

"The sexes resemble each other in plumage, the only difference being that the female is destitute of spurs.

"The species may be described as follows:—Top of head and cheeks greyish brown; hind part of neck and back rufous brown; wings dark brown, feathers tipped with yellowish white; primaries dark brown; rump grey; upper tail-coverts very pale brown; throat chestnut, surrounded by a margin of yellowish white; upper part of breast dark grey, each feather with a central line of black, ending in a black spot at the tip; flanks rufous brown, tipped with yellowish white; middle of abdomen yellowish white, some feathers having their outer webs chestnut; under tail-coverts dark chestnut, with a central streak of black, and white tips; the chestnut divided from the white by a narrow black line; tail-feathers greyish brown at base, then a broad band of black, and tipped with white; bare skin of face red; feet and tarsi horn-colour."

The figures are about the size of life.

CERIORNIS MELANOCEPHALA.

CERIORNIS MELANOCEPHALA.

Western Horned Pheasant.

Satyra melanocephala, Gray in Griff. Anim. King., vol. iii. p. 29.—Ib. Ill. Ind. Zool., vol. i. pls. 46, 47, 48.—Gray, Cat. of Birds in Coll. Brit. Mus., part iii. p. 28.

—— *Nipalensis*, Gray in Griff. Anim. King., vol. iii. p. 29.—Ib. Ill. Ind. Zool., vol. ii. pl. 40.

Tragopan Hastingsii, Vig. in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part i. p. 8.—Gould, Century of Birds, pls. 63, 64, 65.—Hutton, Journ. Asiat. Soc. Beng., vol. xvii. part ii. p. 695.

Ceriornis melanocephala, Gray and Mitch. Gen. of Birds, vol. iii. p. 499, *Ceriornis*, sp. 2.—Ib. Cat. of Spec. and Draw. of Mamm. and Birds presented to Brit. Mus. by B. H. Hodgson, Esq., p. 125.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 240.

Jewar, *Jewari*, Simla, Blyth.

Jahjee, Simla, Hutton.

Iwire, Mussooree, Hutton.

The only living example of this species that has come under my notice, and perhaps the only one that has ever reached this country, was the splendid adult male presented to Her Majesty by Lord Hardinge on his return from India. This fine bird lived for several years in the gardens of Buckingham Palace, and while there, I was graciously permitted to take a drawing of it for the present work; I was also allowed to examine the bird immediately after death, and by these means I have been enabled to give for the first time a correct representation of the gaily-coloured soft parts, the hues of which vanish so rapidly after death. The circumstance of this bird having lived in good health for some years, in a situation so little suited to its habits as a garden in the midst of a great city, tends to prove that if introduced into more favourable localities, the species might ere long be constantly seen in our aviaries, if not even naturalized in this country. It is to be hoped then, that with the vast facilities for transport we now possess, some steps will be taken towards promoting so praiseworthy an object. The route by which this might be most readily effected would be by way of the Indus to Kurrachee, and thence to England by the overland route, care being taken that the transit be performed during the cool season.

The bird is strictly a mountain species, and appears to be confined to the slopes of the North-western Himalayas, particularly those of the hills to the northward of Simla.

I am indebted to Major-General Hearsey for the following notes respecting this fine species:—

"The district of the Himalaya Mountains where I obtained the Horned Pheasant was Gurhwal, to the north-west of Almorah in Kumaon, where I was encamped at a village named Rammee from April to September. Immediately above this village the mountain rises in three steps of about a mile in length, east and west, and half a mile in width; these steps are cut across by rather deep and narrow khuds or small gulleys, the sides of which are covered with high brushwood, but to the north-west there is a considerable valley, which terminates at the crest of the hill, forming the third or highest step. In these khuds or gulleys, and in the valley, I was frequently successful in bagging the *Dhappæa* and *Moonaul*, the former being the Gurhwalee name of the male, and the latter of the female. At the top of the third step leading to the crest of the mountain are extensive tracts of the 'Negallee' or thin Himalayan Bamboo, which although not much thicker than a finger, grows from fifteen to twenty feet in height, and is so thick-set that you cannot force your way very far into it. A spur from the snowy range is not more than eight miles distant, and during the early winter months—October and November—the different kinds of Pheasants are driven down from the more inaccessible portions of the spur by the accumulation of snow, and are frequently taken in the strong hair-snares set for them by the natives in the places to which they resort to feed. Their principal food is the small bulb of a ground Orchis, which they scoop out of the earth with their strong hooked bills. The natives in this part of the country call them Singal Punchee, which signifies 'Horned Bird.' We kept some living examples for several months, and brought a very fine one down with us to the plains in Rohilcund. The azure-blue horns are usually pendent, but when the bird is excited they become erect, and a similar hue pervades parts of the curiously-shaped wattle attached to the under mandible and the front of the neck.

"A favourite resort of these alpine Pheasants is the brushwood and forests clothing the sides of the high Toongassee mountain, which lies between Rammee and Joseemuth, where the hazel-nut is abundant, and where the pink-flowered Rhododendron with yellow under-surfaced leaves also abounds at the highest elevation of brushwood growth. This mountain is, I believe, about 18,000 feet high, and is only traversable during the months of August and September, when it is tolerably free from snow; its top is undulated and studded with small hills or rounded cupola-shaped mounds, among which flowering bulbs and grass abound, and among them the bird, doubtless, finds a supply of its favourite food. I never met with any young birds, nor did I ever find any of the nests or eggs."

Captain Hutton informs us that a pair kept in confinement lived contentedly, became exceedingly tame, and produced two eggs in June, both of which, however, were destroyed by the male; their colour was pale rufous-brown, like those usually termed in India 'game hen's eggs.' Captain Hutton adds that the species is peculiar to the confines of the snow on the loftier hills of the North-western Himalaya.

The sexes of few birds differ more widely in colour than do those of the present species, the female being dressed in a sombre-coloured livery, while the male is adorned with the deepest tints and most conspicuous markings, and with wattles and horns of the most brilliant hues; the colouring of these horns and wattles is, however, only conspicuous during the breeding season; at other periods of the year they are greatly contracted or shrivelled up as it were, and their colours are very much less brilliant, so much so, indeed, as to present little or no indication of the tints they exhibit at the pairing season; of which the following is an accurate description.

Crown of the head, crest and ear-coverts black; bill black; irides hazel; naked skin of the throat rich deep bluish-black in the centre, passing into rich indigo-blue on the sides, into verditer-green at the base of the bill, and beset with black hairs; wattles thin, free, the upper part deep blue, the lower four-fifths rich reddish flesh-colour, corrugated and edged with rich blue, and with four diagonal stripes of the same hue proceeding from a central black line towards the outer edge; orbits, a series of small fleshy wart-like papillæ, of a rich yellowish-vermilion with light blue interspaces; the upper edge of the orbits, and the pointed fleshy horn-like processes proceeding from their posterior upper angle, bluish verditer-green; back and sides of the neck and a large patch on each shoulder maroon-red; all the upper surface and wings freckled black and sandy-buff, with numerous spots of white encircled with black; primaries dark brown, crossed by irregular freckled bars of sandy-buff; on the upper tail-coverts the sandy freckles are larger and more conspicuous, and at the end of each feather is a large spot of white, bounded on the sides with pale chestnut-brown, and above and below with black; tail black, freckled with sandy-buff at the base; on the centre of the breast a number of stiff lanceolate blood-red feathers; feathers of the under surface maroon-red, freckled at the base with buff and brown and largely tipped with black, in the centre of which is a spot of white; these white spots are of small size on the breast, but gradually increase until they become very large towards the tail; the black tips and white spots, too, occupy so much of the feather, that the maroon hue only occasionally appears; legs and feet reddish flesh-colour.

In the young male the plumage is less brilliant, the horns and wattles but little developed, the orbits are of a dull yellow, and the lanceolate feathers of the breast are orange instead of blood-red.

The general hue of the female is light brown, mottled and barred with fine zigzag lines and spots of blackish-brown; the feathers of the back with a narrow central streak of buffy-white, and those of the under surface with larger and more conspicuous markings of the same hue near the tips of the feathers; bill and legs paler or more horn-colour than in the male.

The Plate represents two males about three-fourths of the natural size, and two females in the distance much reduced.

CERIORNIS TEMMINCKII.

CERIORNIS TEMMINCKII.

Temminck's Horned Pheasant.

Satyra Temminckii, J. E. Gray in Hardw. Ill. Ind. Zool., vol. i. pl. 50.—Bonap. Compt. Rend. de l'Acad. Sci., tom. xlii. séance du 12 mai 1856.

Tragopan Temminckii, Benn. in Proc. of Zool. Soc., part ii., 1834, p. 33.

Ceriornis Temminckii, G. R. Gray, Gen. of Birds, vol. iii. p. 499, *Ceriornis* sp. 3.—Gray, List of Spec. of Birds in Coll. Brit. Mus., part. v. *Gallinæ*, p. 41.—Sclat. in Proc. of Zool. Soc., 1863, p. 123.

For our first knowledge of the existence of this Chinese species of *Ceriornis* we are indebted, as in the case of the *Phasianus Reevesii*, to the gentleman after whom that bird was named. It is true that it formed one among the many grotesque objects represented in the rice-paper drawings which had for many years been sent to Europe, but which was supposed to be entirely imaginary, until living examples in the celebrated menagerie of the late Mr. Beale, at Macao, attracted the notice of Mr. Reeves, who did not rest until he had sent specimens to the national collection, and made us acquainted with a bird of which we had previously only seen faulty representations. Now (1868) living examples not only grace our menageries, but are breeding as freely as any species of a form differing essentially from every other comprising the avifauna of Europe can be expected to do: it is fortunate that such is the case; for ornithologists have thereby been enabled to study their varied actions and manners during the exciting period of spring, and to ascertain that they are both curious and interesting. Of the true habitat of this bird, which is probably the most eastern species of the genus, as the *C. melanocephalus* is the most western, our knowledge is extremely scanty; for all we know is that it is a native of China, probably the hills in continuation of the great Himalayas. On the southern slopes of these lofty ranges, but at a considerable elevation, all the four known species most likely dwell; two of them certainly reside there, namely the *C. melanocephalus* in the north-western provinces of Kumaon, at an elevation of 10,000 feet, and the *C. satyra* at a similar altitude in Nepaul, Bootan, and Sikhim; but, as before mentioned, the habitat of the present species is unknown; and we are equally unacquainted with that of *C. Caboti*. Besides being indebted to Mr. Reeves for the first introduction of *C. Temminckii*, science is under considerable obligation to Mr. James J. Stone for his perseverance in obtaining many of the living examples now in this country; and I have, moreover, to thank him for the loan of specimens of both sexes, whereby I am enabled to give a more faithful representation of them than I could otherwise have done. The accuracy of the accompanying plate has, moreover, been greatly aided by Mr. T. W. Wood's sketches of the form and colouring of the wattles of the male during the nuptial season. The displays of this appendage made by the bird at that time are most astonishing, and must be seen to be appreciated: so extraordinary are they, that the keepers in the Zoological Society's Gardens could not help expressing to me their surprise and wonder at its instant prolongation and contraction; "like a flash of lightning" was the simile of one, "like brilliant fireworks" that of another. These manifestations of excitement I have also witnessed myself; and the sudden descent of the immense wattle of blue and red, the dilatation of the cylindrical pendent horns of verditer green and blue, and the depression of the feathers of the crown, and their lateral expansion over the eyes, afforded me much pleasure and delight. To figure these instantaneous exhibitions is impossible; and beautiful as the accompanying representation may appear, it falls far short of the original.

One of the earliest contributors to our knowledge of this bird is Dr. George Bennett, of Sydney, New South Wales, who, when in England in 1834, exhibited, at the meeting of the Zoological Society of London held on the 13th of May, specimens of three kinds of *Ceriornes*, including the present species, and, in illustration of its history, placed upon the table drawings of specimens observed by him at Macao, showing the remarkable wattle in various stages of expansion, and read the following note on the subject:—

"In its contracted state the membrane has merely the appearance of a purple skin under the lower mandible; and is even sometimes so much diminished in size as to be quite invisible. It becomes developed during the early spring months or pairing-season of the year, from January to March, when it is capable of being displayed or contracted at the will of the bird. During excitement it is enlarged, falls over the breast, and exhibits the most brilliant colours, principally of a vivid purple, with bright red and green spots, the colours varying in intensity according to the degree of excitement. When they are most brilliant (that is, when the excitement is great) the purple horns are usually elevated." The living specimens seen by Mr. Bennett were procured from the province of Yunnan, bordering on Thibet. Mr. Beale, in whose aviary at Macao they were, had not succeeded in obtaining females. Its Chinese name is *Tu Xou Nieu*.

The specific distinctions of this bird, compared with the other members of the genus, are so well marked that they need not be dwelt upon; but I may mention that the grey centres of the abdominal feathers constitute the most conspicuous of them.

As is the case with all the other species, the sexes differ materially in colour.

The male has the lores, forehead, a few of the foremost feathers of the crest, a broad stripe over each eye, the ear-coverts, the sides of the head, occiput, and nape deep black; remainder of the crest, neck, and breast rich deep chestnut-red; all the upper surface is also chestnut-red in general appearance, but on examination each feather is found to be mottled with black and white, the latter assuming a V-shaped form with the base towards the extremity; at the centre of the tip is a nearly round spot of white encircled by a narrow ring of black, on each side of which the tip is rich deep chestnut; primaries blackish brown, conspicuously mottled on the outer and minutely on the inner web with tawny or deep buff; feathers of the under surface of the body and the under tail-coverts grey, broadly margined with reddish chestnut, which, on the thighs, gradually becomes light red without any grey in the centre; lower part of the tail-coverts deep grey, gradually mingling with the dark dull red of their margins; tail mottled black, brown, and buff; wattles rich blue, with, in the centre of each side, a series of short bands of scarlet; the undersides of the wattles are moreover sparsely clothed with black feathers, which, projecting beyond the edge, give them a fringed appearance; bill and feet horn-colour.

The female is mottled all over with brown, black, and buff, with a few white markings on the centres of the back-feathers, and of grey on those of the breast.

The accompanying plate represents a male nearly of the size of life, and a female considerably reduced.

CERIORNIS BLYTHII. *Jerd.*

CERIORNIS BLYTHII, *Jerd.*

Blyth's Horned Pheasant.

Ceriornis Temminckii, Jerd. Ibis, 1870, p. 147.
——— *Blythii*, Jerd. Journ. Asiat. Soc. Beng., 1870, p. 60.—Sclat. in Proc. of Zool. Soc., 1870, pp. 162, 163, 164, 219, pl. xv.—Elliot, Mon. of Phas., pl.—Gray, Hand-list of Birds, pt. ii. p. 262.

"In October last" (1869), says Mr. Sclater, "Dr. T. C. Jerdon, the well-known Indian naturalist, addressed to me a letter from Shillong, a new sanitarium on the Khasya Hills in Upper Assam, stating that he had obtained from the hill-ranges in the neighbourhood of Suddya a skin of a Tragopan (*Ceriornis*), distinct from either of the well-known Indian species, but which he believed might be *C. Temminckii* of China, and had seen a living example of an Impeyan from the same hills, which he regarded as probably new to science, and proposed to call *Lophophorus Sclateri*.

"In a subsequent communication, received through Dr. J. Anderson, our excellent correspondent and honorary agent at Calcutta, Dr. Jerdon informed me that, in the interests of the Society, he had begged of Major Montagu, of the Bengal Staff Corps, the fortunate possessor of the new Impeyan, the living bird in question, as also a living example of the so-called *Ceriornis Temminckii*, in the same gentleman's possession, and had forwarded them to Calcutta to Dr. Anderson for transmission to the Society. Dr. Jerdon likewise stated that, since he last wrote, having had an opportunity of consulting authorities, he had convinced himself that the *Ceriornis* was distinct from *C. Temminckii*, and, in a notice sent to the 'Journal of the Asiatic Society of Bengal,' had proposed to call it *Ceriornis Blythii*.

"It is to Major Montagu, therefore, that the Society are primarily indebted for these two splendid birds, which reached us in safety on the 12th inst., though our best thanks are likewise due to Dr. Jerdon and Dr. Anderson for their kind assistance in the matter, and to Mr. William Jamrach, who most liberally undertook to convey them home, under his personal care, and has delivered them to us in excellent condition.

"Amongst the described species of the genus it most nearly resembles *C. Caboti*, being below mesially of a nearly uniform colour, somewhat as in that species, and not distinctly ocellated as the three other members of the genus. It is, however, to be recognized at first sight by the splendid golden yellow of the naked face and throat."

Mr. Elliot, speaking of this species in his 'Monograph of the Phasianidæ,' says "The individual above referred to is now (June 1870) in the Gardens, Regent's Park, and is in a very healthy condition. It is quite tame, and appears to have become reconciled to its captivity. In the same enclosure a female of *C. Temminckii* has been placed; and his manner of paying his addresses to his new companion is very interesting. When approaching her, he lowers all the feathers which are on the side nearest to her, almost hiding his legs, showing to the greatest advantage the beautiful markings of his plumage, and the admirable manner in which the various colours blend into one another. The tail is widely spread at the same time, and lowered towards the ground; and in this way making the best display of his beautiful plumage, he walks slowly round the hen, who, at least while I was watching them, appeared perfectly indifferent to the attractive creature who was endeavouring to arrest her attention."

In a communication to 'The Ibis' for 1870, Dr. Jerdon states that this bird is found on the hill-ranges of Upper Assam towards the head of the valley, descending, it is asserted, occasionally to a rather low level. It is called "*Sún-súria*" by the natives, which means the "Golden bird."

Unfortunately this fine bird did not grace the Society's menagerie for any lengthened period, but, dying in its finest state of plumage, I was thereby enabled to make perfect the accompanying representation. I for one hail with great pleasure the discovery of this valuable acquisition, which makes one wonder if there be any more species yet to be found of this beautiful form, and also of the equally beautiful genus *Lophophorus*, of which two new ones have lately become known to us, viz. *Lophophorus L'Huysii* and *L. Sclateri*.

Inasmuch as a verbal description of the colouring and of the form and arrangement of the markings of Blyth's Horned Pheasant, however minute and accurate, must necessarily fail of conveying an adequate idea of its appearance, I shall not attempt to describe them, but refer my readers to the accompanying Plate, in which they are accurately displayed from the living example above mentioned.

The principal figure is nearly of the size of life. The very reduced figure in the background is supposed to represent what the female will be like.

CERIORNIS CABOTI, *Gould*

CERIORNIS CABOTI, *Gould.*

Dr. Cabot's Horned Pheasant.

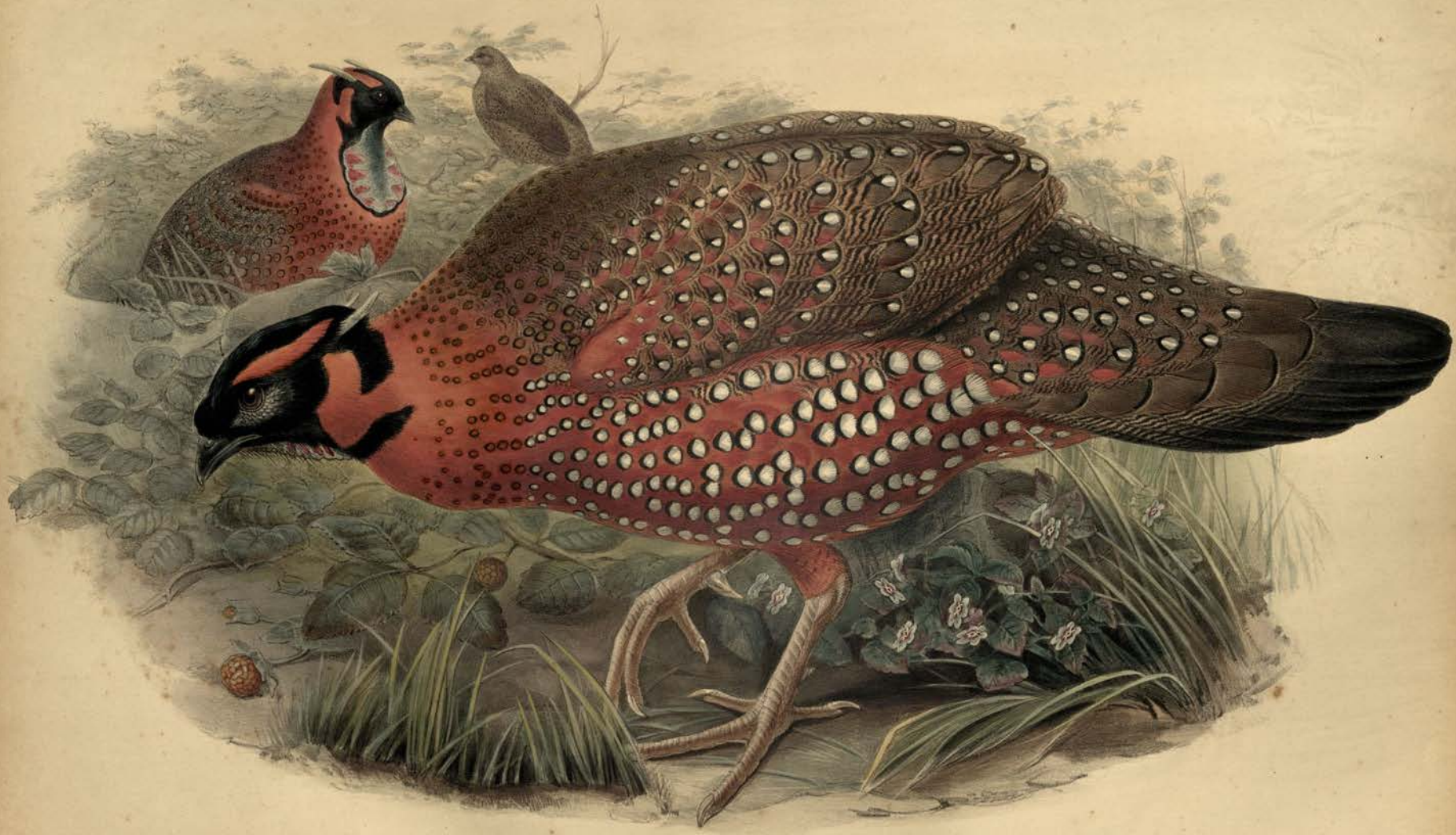
Ceriornis Caboti, Gould in Proc. of Zool. Soc., Part XXV. p. 161.

Among the many eminent and liberal men I had the pleasure of becoming acquainted with during my visit to the United States of America in the summer of 1857, was Dr. Cabot of Boston, a gentleman highly distinguished as a traveller, and for his devotion to the study of natural history. In his collection were many rarities, some of which especially interested me, but none more so than the remarkable bird represented on the opposite Plate, and which had been received by him from China. Dr. Cabot very kindly permitted me to bring this fine bird to London, for the purpose of figuring it in the present work; which being done, it will now be returned to him with many thanks from myself, and I am sure those of my readers generally. I could obtain no other information respecting the bird than that it was from the country I have mentioned, and, I believe, the neighbourhood of Macao. I was for some time in doubt as to whether it was not a mere variety of some previously known species of the genus, but after repeatedly and very carefully comparing it with the whole of them, I could come to no other conclusion than that it is distinct from them all, and therefore gave it the name of *Ceriornis Caboti*, as a just tribute to its owner for his liberality. In form it is a *perfect Ceriornis*, and in the colouring of its head and the whole of its upper surface it is equally so; but it differs in its markings from all the other species of the genus. It was the beautiful buff colouring of the breast which so perplexed me, as it is not to be found in any of the others; but it is so regular and so well defined, that I am convinced it is a good species. As a matter of course, the well-known Chinese member of the genus, *Ceriornis Temminckii*, was the bird with which the most careful comparison was instituted; it is, however, found to differ from that bird, both in the markings of the back and in the tints which pervade the under surface. In the *Temminckii* these tints are of a semi-uniform character of colouring, the general hue being grey, while in the *Caboti* the same part is buff; colours of such an opposite nature, that they will not change from one to the other; I remark, too, that the legs are somewhat longer than those of any other known species.

Forehead, sides of the head, nape, and chin black; crest and sides of the neck deep red; all the upper surface mottled with black, rich chestnut, buffy white, and black, the latter coloration assuming the form of a large circular spot at the tip of each feather, this buff mark greatly increasing in size on the scapularies and the greater wing- and tail-coverts; primaries and tail-feathers very dark brown, crossed with toothed markings of buff mottled with black; breast and under surface deep sandy buff, stained with red and black on the flanks, under tail-coverts and thighs.

Total length, 18¼; bill, 1⅜; wing, 10; tail, 7½; tarsi, 3¼; middle toe and nail, 2¾.

The figure is about two-thirds of the natural size.



CERIORNIS SATYRA.

J.Gould & H.C.Richter, del. et lith.

Walter Imp.

CERIORNIS SATYRA.

Nepaulese Horned Pheasant.

Meleagris Satyra, Linn. Syst. Nat., tom. i. p. 269.—Lath. Ind. Orn. vol. ii. p. 619.
Penelope Satyra, Gmel. edit. Linn. Syst. Nat., tom. i. p. 733.
Phasianus Bengalensis cornutus, Briss. Orn., vol. vi. Suppl. p. 14.
——— *Satyrus*, Temm. Hist. Nat. des Pig. et Gall., tom. ii. p. 349, et tom. iii. p. 672.—Vieill. Gal. des Ois., tom. ii. p. 23, pl. 206.
Horned Pheasant, Edw. Nat. Hist. of Birds, p. and pl. 116.—Lath. Gen. Hist., vol. viii. p. 208.
——— *Turkey*, Lath. Gen. Syn., vol. iv. p. 680; Suppl. p. 203.
Tragopan Satyra, Cuv. Règn. Anim., edit. 1829, tom. i. p. 479.
——— *Satyrus*, Vig. in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part i. (1830) pp. 122, 173.—Gould, Cent. of Birds, pl. 62.
——— *Satyrus*, Temm. Pl. Col. 543, 544.
——— *Lathami*, Reich. Syst. Av., p. xxix.
Satyra Lathami, Gray in Hardw. Ind. Zool., pl. 51.
——— *Pennantii*, Gray ibid., pl. 49.
——— *cornuta*, G. R. Gray, List of Gen. of Birds, 1848, p. 78.
Ceriornis satyra, Gray, List of Spec. and Draw. of Mamm. and Birds pr. to Brit. Mus. by B. H. Hodgson, Esq., p. 125.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 240.—Jerd. Birds of Ind., vol. ii. pt. 11. p. 516.—Gray, List of Spec. of Birds in Coll. Brit. Mus., part. v. Gallinæ, p. 40.
——— *Lathami*, G. R. Gray, Gen. of Birds, vol. iii. p. 499, *Ceriornis*, sp. 1.
Tirriak-pho of the Lepchas. *Bup* of the Bhoteas. *Dafia* of the Bengalese.

The *Ceriornis Satyra*, the oldest known member of the genus, is another of the splendid productions of the southern slopes of the Himalayas, inhabiting, as it does, Nepaul, Sikhim, and Bhotan, while its near ally, *C. melanocephala*, frequents the country extending from the neighbourhood of Simla to Afghanistan. We have no knowledge of the vast hilly region eastward of Sikhim; but I think it likely that the present bird may extend its range *in that direction* until it inosculates with the Chinese *C. Temminckii* and *C. Caboti*. All the species of the genus appear to inhabit the temperate regions of the ranges in which they respectively dwell, mostly at an elevation of from 6000 to 10,000 feet, sometimes ascending to the line of perpetual congelation, but never descending to the hot forests at the base of the hills. As the present bird is an inhabitant of a climate not very different from our own, it was supposed that it could be naturalized in this country; and the apparent success of the earlier experiments seemed to justify such a conclusion; but I believe that all these attempts will end in futility. At first, like many other eastern birds, they appear to enjoy the change, and breed freely; a second year shows a great falling off; and the third generally terminates their existence. As a bird for the aviary no one can be more beautiful and interesting; it is, indeed, a pleasure to look upon its rich colouring during the short time it will live with us, and more than interesting to witness the display made by the male, when desirous of attracting the notice of the female, on the approach of the breeding-season; now it is that we see during the momentary expansion of the quivering wattles a display of colour unequalled for the beauty and depth of its tints; as, however, the proud male only now and then lowers the wattles to the extent shown in the smaller figure of the accompanying Plate, it becomes necessary to pay repeated visits to the aviary, or the opportunity of witnessing it will be lost. As is the case with the other members of the genus, much diversity occurs in the colouring of the sexes. With these few somewhat general remarks, I now proceed to transcribe with acknowledgment, the accounts given of this bird by my contemporaries:—

"This species," says Mr. Jerdon," appears to be very abundant in Nepal, and is not rare in Sikhim at considerable elevations. I have seen it at about 9000 feet in spring: in winter it descends to between 7000 and 8000 feet in the vicinity of Darjeeling, and perhaps lower in the interior. It is frequently snared by the Bhoteeas and other hill-men, and brought alive for sale to Darjeeling. Its call in spring is a low, deep, bellowing cry, sounding like *waa-ung*, *waa-ung*."

"During a two years' residence at Darjeeling, in the Sikhim Himalaya," says Captain Beavan, "I had many opportunities of observing the habits of the birds called *Ceriornis satyra*, both in their native wilds and in captivity, and have often been after them gun in hand, attended by a single trusty Nepaul shikaree, *i. e.* sportsman. I have usually found them on the steep forest-clad slopes of the mountains, at an elevation of from 6000 to 9000 feet above the sea. They generally prefer the neighbourhood of water, but are, as far as my experience goes, always found amongst the densest underwood, and where the greatest part of the vegetation consists of oak, magnolia, ilex, and the other trees of that zone. They are seldom seen

on trees except when disturbed by a dog; on hearing a human footstep they invariably run, if they can; and it is anything but an easy matter in Sikhim to get a fair shot at these or any other game-birds that inhabit that country. When they do rise, they always fly down the side of the mountain; and the momentary glimpse one gets of a scarlet object between the trees, flying very rapidly, is, to a man who perhaps for some hours previously has been toiling on hands and knees, and creeping through prickly bushes as silently as possible, anything but satisfactory. Shooting under such difficulties is therefore but little practised by Europeans; those who want skins of birds, or game for the table, generally hire a native, either a Lepcha or Nepaul man, who, by lying close near the known haunts of the birds, and imitating their call, draws them within shot. The winter months, when the underwood is not so dense as at other seasons, are the only period of the year at which even the natives can get at them. The usual plan of capture is by making a hedge of bushes about 3 feet high, extending down the sides of a hill, like the sides of a triangle with the base open. The sides are made to gradually converge until near the apex, where small gaps are left, in each of which a noose is placed. The birds are then slowly driven by men on foot, walking in line, towards the base of operations, if I may so call it; and the birds, continuing to run instead of resorting to flight, dash through the openings and are caught in the nooses. A curious fact with regard to this mode of capture is, that the proportion of males to females is generally four or five of the former to one of the latter. The birds brought into Darjeeling for sale are usually sold for about four shillings each, if it happens to be a dry season, but generally more. I have seen them sold at two shillings each. Early morning or the evening are the best times to go after them; and the former is preferred by the natives. They are then heard calling on all sides, and, by dint of severe crawling and creeping, one has the chance of a shot, which as likely as not will be at the bird running; and the sportsman must avail himself of the very first glimpse of the bird to fire, or he will not be likely to see it a second time."

"It is quite impossible," says Mr. Bartlett, "to convey in writing or by a drawing the extraordinary beauty of the living male bird while courting the female; no language can accurately describe it; and the vibratory motion of the head and neck renders a drawing out of the question. It must be seen to be understood." Mr. T. W. Wood, in some notes communicated to Mr. Bartlett, gives the following account of the birds as seen by him in the Zoological Society's Gardens:—"The males can only be seen to advantage in the early morning and in the evening, as they conceal themselves during the day; the females, however, are less retiring in their habits. When the male is not excited, the horns lie concealed under two triangular patches of red feathers, their points meeting at the occiput; the large wattle is also concealed or displayed at the will of the bird. The male has three distinct modes of 'showing off,' if I may be allowed the expression. After walking about rather excitedly, he places himself in front of the female with the body slightly crouching upon the legs, and the tail bent downwards; the head is then violently jerked downwards, and the horns and wattle become conspicuous; the wings have a flapping motion, and the bright red patch on them is fully displayed. The whole of the neck appears to be larger than usual during this action, as do also the horns, which, moreover, vibrate with every movement. This scene is concluded by the bird suddenly drawing himself up to his full height, with his wings expanded and quivering, the horns erect, and the wattle fully displayed. The second mode consists of simply erecting all his feathers and elevating one shoulder, thereby exposing a greater surface to view, without, however, showing his head-dress. The third mode is by simply standing boldly erect on an elevated perch, giving the head one or two sudden shakes, and causing the horns and wattle to appear for a few moments."

As any description, however accurate, must fail to convey a just notion of the colouring of this fine bird, I shall content myself with referring my readers to the accompanying plate, in which it is correctly depicted. The female represented in the upper figure differs greatly from the male, being of a sombre brown mottled with a darker tint, and with a few faint white lines on the upper part of the back and wing-coverts; primaries chestnut, banded with dark brown; chin whitish; under surface ornamented with white lines which increase in size from the breast to the vent.

The young males resemble the females, and when assuming the plumage of maturity are spotted with red on the neck, wings, and under surface.

"The eggs" are described by Mr. Sclater to be of a "creamy white, minutely freckled and blotched with two shades of pinkish grey, and measure 2·45 by 1·8 inch." Mr. Bartlett states that the young birds, when nearly hatched, are not unlike the chicks of the Woodgrouse (Capercaillie), and that their wings are then sufficiently developed to enable them to mount the branches of trees or shrubs.

The Plate represents an adult male, about two-thirds of the natural size, and contains a reduced figure of the same sex displaying the horns and wattle, and a still further reduced female.

POLYPLECTRON CHINQUIS.

POLYPLECTRON CHINQUIS.

Assam Peacock-Pheasant.

Pavo tibetanus, Briss. Orn., tom. i. p. 294, pl. xxviii. A. fig. 2?—Linn. Syst. Nat., tom. i. p. 26. no. 2 β?—Gmel. edit. Linn. Syst. Nat., tom. i. p. 731?—Bonn. and Vieill. Ency. Méth., Orn., part i. p. 179, pl. 83. fig. 3.—Cuv. Règn. Anim., 1829, tom. i. p. 474.

Le Chinquis, Buff. Hist. Nat. des Ois., tom. ii. p. 365; Pl. Enl., 492, 493.

Thibet Peacock, Lath. Gen. Syn., vol. iv. p. 675.—Shaw, Nat. Misc., pl. 441.—Lath. Gen. Hist., vol. viii. p. 120.

Polyplectron chinquis, Temm. Hist. Nat. des Pig. et des Gall., tom. ii. p. 363, tom. iii. p. 675.—Id. Pl. Col., 539.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 241.—Sclat. in Proc. of Zool. Soc., 1863, p. 124.—Swinh. ibid., p. 307.

– – – – – *thibetanus*, Bonap. Compt. Rend de l'Acad. Sci., 1856, p. 878.—Gray and Mitch. Gen. of Birds, vol. iii. p. 495.

— —— — *albo-ocellatum*, Cuv.

– ———— *lineatum*, Gray and Hardw. Ill. Ind. Zool., pl. 38.—Gray and Mitch. Gen. of Birds, vol. iii. p. 495.

——— — *cyclospilum*, *P. atelospilum*, et *P. enicospilum*, G. R. Gray, List of Spec. of Birds in Coll. Brit. Mus., part v. *Gallinæ*, pp. 23, 24?

– – —— — *thibetanum*, Elliot, Mon. of Phas., pl. .

Diplectron bicalcaratus, Vieill. Gal. des Ois., tom ii. pl. 203.

On reference to my account of the *Polyplectron bicalcaratum*, it will be seen that I regard the synonymy of that species and of the bird here represented as being in a state of inextricable confusion, and believe it impossible to determine with certainty to which of the two best-known species of this form the descriptions and even the names given by the older authors are referable—and that I there stated my intention to retain the above name for the bird from Malasia, or the Malayan Peacock-Pheasant, and to employ Temminck's term of *chinquis* for the Assam and Sylhet species (*i. e.* the one here figured), which may or may not be the *Pavo tibetanus* of Brisson, Linnæus, and Gmelin; but I quite agree with Mr. Sclater that, if it be, the name ought not to be retained, since, as might be supposed, the bird is not an inhabitant of that cold northern region.

Few and slight indeed are the notices on record of this species; by far the most interesting is comprised in the following extract from Ornithognomon's "Game-Birds of India," published in 'The Field' newspaper:—

"This bird inhabits the great southern branch of the Himalaya, which passes through Burma, where the range is called the Yomadoung, or Backbone mountains, through Tenasserim. Blyth, in his 'Catalogue of the Birds in the Asiatic Society's Museum,' gives Sylhut, in Eastern Bengal, as a habitat; and it is said to be found in all the mountainous parts of Assam. It is also met with in the eastern parts of Chittagong, and in all the inland hills of Arakan.

"I have never shot this bird, and, indeed, only once came upon it, in a narrow path leading along a ridge about 3000 feet above the sea, in the mountains on the British side of the Thoungyen river, which separates Tenasserim from Yahan in Siam. It started so suddenly, having apparently been dusting itself in the path, and shot so rapidly through the jungle down the kud, that, had it not left two or three of its feathers behind, I should not have known what bird I had flushed. I am not aware of any English sportsman having ever bagged one of these birds; and, indeed, it frequents such inaccessible places as effectually to defy approach. These mountains in the tropics rise to a height of six or eight thousand feet above the sea, and from six thousand feet downwards are clothed with such a dense mass of trees, thickets, underwood, bamboos, and thorny rattans, all bound together by creepers and tangle, that it would be an hour's labour to cut one's way through a hundred yards of such stuff. Add to this, there is not a square foot of level ground anywhere off the pathway, and the sides of these hills are so steep that walking along them is most difficult. The feet slide down the greasy soil, ever moist with the drippings of the trees and decayed vegetation, and the explorer finds himself brought up in a mass of thorny tangle, or, while plunging knee-deep through a slough of rotting leaves, trips headlong over one of the thousands of prostrate logs and trunks which, buried under fallen foliage, lie concealed from the eye of the most vigilant." The writer then gives a vivid description of the many other dangers to which the explorer is exposed from venomous insects of various kinds and the deadly miasma engendered in such localities, and proceeds to say that, "if, undeterred by all these obstacles, the sportsman forces his way down the steep incline, the lower he descends the more oppressive grows the atmosphere; and the heat at the bottom, if he can reach so far, is almost stifling. The air, which, keen and

fresh, waves the lofty branches of the colossal Thengan on the giddy height far above, here scarce circulates. A stony stillness, an oppressive weight, broods over the deep abyss; and perpetual shade engenders a chilling deadly damp, in which broods the most fatal miasma. However, such are the spots where the Polyplectron, the Kallij, the Fireback, and other species of hill-Pheasants dwell in the heat of the day, or seek refuge when disturbed from above.

"I have kept these Peacock Pheasants in captivity, which they appear to bear tolerably well, but never become thoroughly tame. They were incessantly uttering a soft low cluck, but emitted at times a cry or crow being the same clucks loudly and rapidly repeated. It devours grain of all kinds and insects with equal eagerness."

Dr. Jerdon informs Mr. Elliot that a living specimen, presented to him and now in the Zoological Gardens, "is a timid bird, and does not care for leaves, but is very fond of insects, and will eat greedily of small fish, frogs, lizards, and raw meat. It has a peculiarly fine rich whistling call, which it utters daily about sunrise and occasionally at other times."

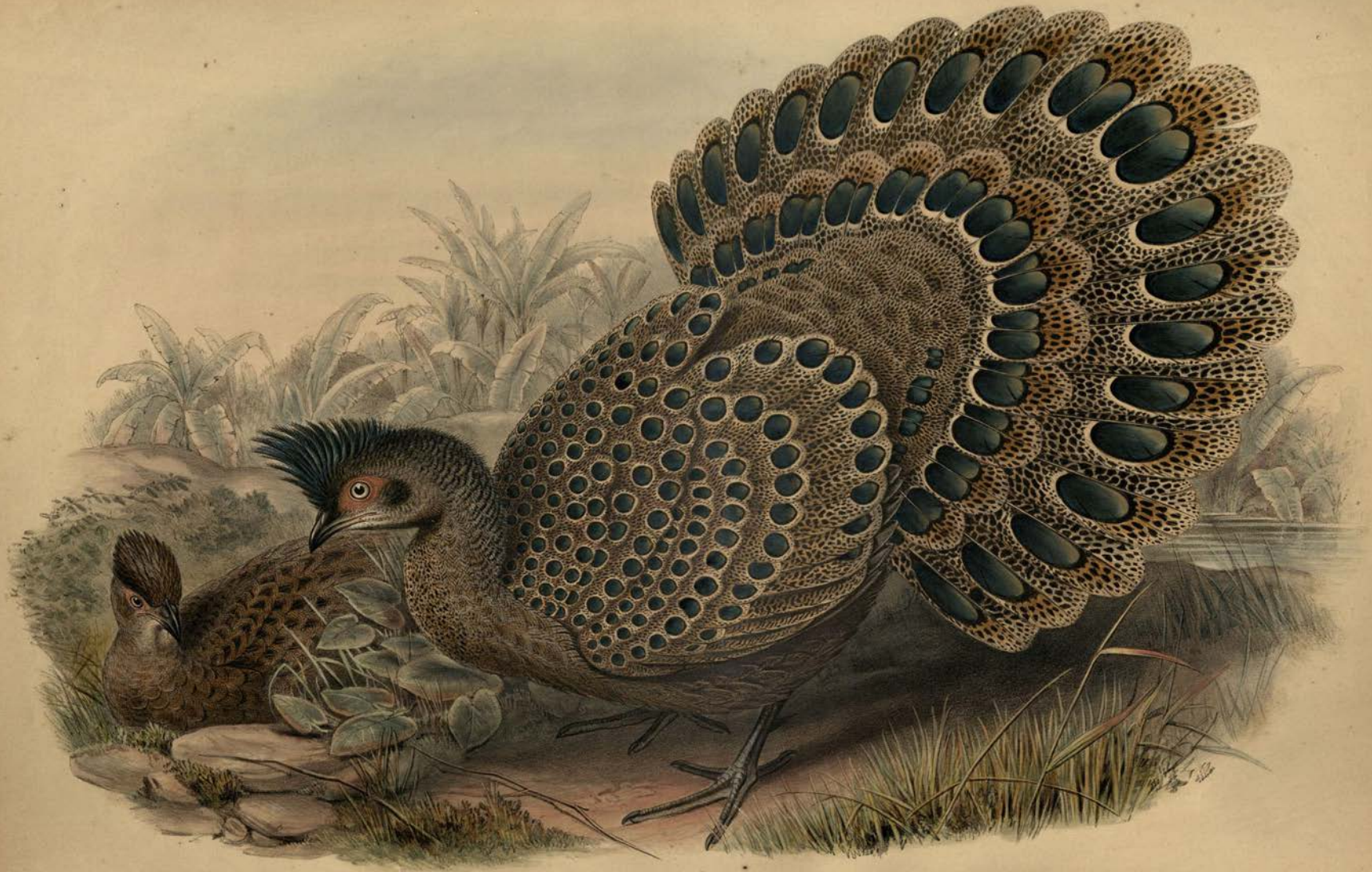
In Mr. Sclater's "List of the Species of Phasianidæ, with remarks on their Geographical Distribution," published in the 'Proceedings of the Zoological Society of London' for 1863, he says:—"We received two males of this species in 1857, presented to us by the Babu Rajendra Mullick, which are still living in good health in the Gardens. The same gentleman has again sent us a pair this year; but the female unfortunately died before reaching England. There is, however, no doubt that this fine bird would do well in captivity."

Subsequently (in July 1864), the Babu sent another female, which has several times bred in the Society's Gardens, and by this means we have become acquainted with several particulars in the bird's economy, which are doubtless equally characteristic of those of the other species of the genus: thus we now know that two or three broods in a year are frequently produced by the same pair, that the young follow closely behind the female and are often covered by her tail, that the normal number of the eggs is two, and that they are peculiarly delicate in form and colour, assimilate very closely to those of the Golden Pheasant (*Thaumalea picta*), and are of a cream- or buffy white, nearly two inches in length by one inch and seven sixteenths in breadth.

Mr. Elliot, states, in his 'Monograph of the Phasianidæ,' that the Superintendent of the Zoological Society's Gardens, Mr. A. D. Bartlett, informed him "that, the first time the young of this species were hatched in their gardens, a Bantam hen was employed for a foster-mother, and that the chicks would follow close behind her, never coming in front to take food, so that in scratching the ground she frequently struck them with her feet. The reason for the young keeping in her rear was not understood until, on a subsequent occasion, two chicks were reared by a hen *P. chinquis*, when it was observed that they always kept in the same manner close behind the mother, who held her tail widely spread, thus completely covering them; and there they continually remained out of sight, only running forward when called by the hen to pick up some food she had found, and then immediately retreating to their shelter. It was thus rendered evident that the young in following the Bantam hen were simply obeying the instincts of their nature, although the upright tail of their foster-mother failed to afford them the protection which they would have found had they been reared by a female of their own species."

The accurate representation of these fine birds, taken from the living examples in the Gardens of the Zoological Society, renders any verbal description quite unnecessary, except to remark that the spots on the back are of a rich metallic purple in all lights, while those on the tail are green.

The figures represent the two sexes, about nine-tenths the size of life.



POLYPLECTRON BICALCARATUM.

J.Gould & H.C.Richter del. et lith.

Walter Imp.

POLYPLECTRON BICALCARATUM.

Malayan Peacock-Pheasant.

Pavo bicalcaratus, Linn. Syst. Nat., tom. i. p. 268.
—— *Malaccensis*, Scop. Flor. et Faun. Insubr., p. 93.
Polyplectron bicalcaratum, G. R. Gray, List of Spec. of Birds in Coll. Brit. Mus., part v., *Gallinæ*, p. 23.—Blyth, Cat. of Birds in Mus. Asiat. Calcutta, p. 242.—Sclat. in Proc. Zool. Soc., 1863, p. 124.
Le petit Paon de Malacca, Sonner. Voy. aux Ind. Orient. et à la Chine, tom. ii. p. 173, pl. 99.

Four or five distinct species of the beautiful tribe of birds known to ornithologists by the generic title of *Polyplectron*, or Peacock-Pheasants, doubtless exist; that there are more than these is, in my opinion, very questionable; and it is quite certain that a far larger number of specimens than are to be found in any museum must be brought side by side, and very carefully compared, before the actual number of the species can be determined with accuracy. The synonymy of two of them, which in this work I shall respectively call *P. bicalcaratum* and *P. chinquis*, is involved in such complete confusion as to defy the most astute ornithologist to ascertain correctly to which of them many of the names of the older authors really pertain. I have therefore only placed such synonyms to the present bird as I believe have reference to it, retaining, like Mr. Blyth, the term *bicalcaratum* for the Malayan bird, skins of which are so commonly found in collections sent from Singapore and the Malay peninsula, and which is represented on the accompanying Plate. "Sufficient for the time is the evil thereof;" I shall therefore defer speaking of *P. chinquis* and its synonymy until I figure that equally beautiful species.

The present bird, *P. bicalcaratum*, is somewhat smaller than *P. chinquis*, and, moreover, differs from that species in the browner tint of the ground-colour of its plumage and in the larger size of the spots on its tail-feathers. It is, as before mentioned, an inhabitant of the Malayan peninsula, but not of China, on the one hand, nor of Java, on the other; as regards the avifauna of the Peninsula of India, neither it nor the *P. chinquis* is comprised therein. The females of all the members of this well-defined genus differ very considerably from the males—their plumage being sombre indeed when compared with that of their mates, as may be seen on reference to the opposite Plate.

The specific term *bicalcaratum*, although not inappropriate, is not the best that could have been applied, since in some cases (in the specimen from which my figure was taken, for instance) two spurs are found on one leg and three on the other; it is evident, therefore, that this is a variable character.

The male has the crest greenish blue, the remainder of the head and the back of the neck banded with alternate irregular bands of black and grey; all the upper surface and wings brown, freckled and spotted with dark brown; each of the feathers of the mantle, scapularies, and wing-coverts with a nearly circular, glossy, and apparently raised or convex spot, which in some lights appears green, in others fine purple with an edging of black, and which is rendered the more distinct by the ground-colour of the feather surrounding the spot being of a lighter tint and forming a ring; upper tail-coverts browner, and more minutely freckled with blackish brown, a few on each side with a double oval spot near the tip, like those just described; on the last row of coverts these spots become greatly increased in size, are bounded posteriorly with buff, and anterior to them the tip of the feather becomes washed with rufous; on the tail-feathers a precisely similar arrangement of spots and tints is seen, but greatly increased in size; primaries brown; throat grey, with lighter shafts; under surface brown, each feather having the shaft, its margin, and its freckled sides of a paler brown; centre line of the throat freckled and spotted with black on a buffy ground; under tail-coverts very dark brown, and the spaces so luminous above are plain brown without freckles; the orbits appear to have been reddish; irides yellow; bill and feet horny lead-colour.

The general plumage of the female is brown, freckled and margined with a lighter tint, and with a faint indication of spots on the tail.

The Plate represents a male and a female, about the natural size.

W. Hart. del. et lith.

ARGUSIANUS ARGUS.

Walter Imp.

ARGUSIANUS ARGUS.

Great Argus Pheasant.

Argus Pheasant, Lath. Syn. iv. p. 710 (1783).—id. Gen. Hist. B. viii. p. 203 (1823).
Phasianus argus, Linn. Syst. Nat. i. p. 272 (1766).
Argus pavonius, Vieill. Gal. Ois. pl. 203 (1834).—id Encycl. Méth. pl. 87. fig. 3.
—— *pavoninus*, Less. Traité d'Orn. p. 488, & Atlas, pl. 84 (1831).
—— *giganteus*, Temm. Hist. Pigeons et Gall. iii. p. 678.—Jard. & Selby, Ill. Orn. pls. 14, 15.—Blyth, Cat. B. Mus. As. Soc. 1849, p. 242.—Sclater, Proc. Zool. Soc. 1863, pp. 124–222.—Wallace, Malay Archip. i. p. 32.—Elliot, Monogr. Phas. pl. 11 (1872).—Hume, Str. F. 1878, p. 427.—Id. 1879, pp. 68–110.—Id. & Marsh. Game Birds of India, i. p. 99.
Argusianus giganteus, Gray, Gen. B. iii. p. 103 (1845).—Jerd. B. Ind. iii. p. 509 (1864).—Gray, List Gall. Brit. Mus. p. 25 (1867).—Blyth, B. Burm. p. 148 (1875).
———— *argus*, Salvad. Ann. Mus. Civ. Genov. xiv. p. 85 (1879).—Oates, B. Brit. Burm. ii. p. 313 (1883).
Argusa giganteus, Kelham, Ibis, 1881, p. 530.

This splendid Pheasant is chiefly known as an inhabitant of the Malayan peninsula, whence it ranges northwards into the dense forests in the neighbourhood of the Pakchan river in Tenasserim, and it also extends into the island of Sumatra. In Borneo its place is taken by the allied species *Argusianus grayi*; but the common Argus is said to reach to Siam, where it was obtained by the late M. Mouhot. In Cochin-China it would appear to be replaced by the lately described *Reinhardius ocellatus*, two specimens of which now grace the galleries of the Paris Museum. Several descriptions have been written of the habits of the Argus, most of which are too lengthy to be reproduced here, especially as they will be known to the majority of my readers from Mr. Wallace's 'Malay Archipelago,' Messrs. Hume and Marshall's 'Game Birds of India,' Mr. Elliot's 'Monograph of the Pheasants,' and Mr. Tegetmeier's work on Pheasants. One of the best accounts, however, of the present bird is that given by Mr. Davison in the sixth volume of 'Stray Feathers.' This gentleman resided for several months in the neighbourhood of Malewoon, in Tenasserim. He gives full information as to the mode in which these Pheasants are trapped by the Malays; and I make the following extract from his account of the habits of the birds, especially as the above-mentioned paper is less likely to be known to my readers :—

"They live quite solitarily, both males and females; every male has his own drawing-room, of which he is excessively proud, and which he keeps scrupulously clean. They haunt exclusively the depths of the evergreen forests, and each male chooses some open level spot, sometimes down in a dark gloomy ravine, entirely surrounded and shut in by dense cane-brakes and rank vegetation, sometimes on the top of a hill when the jungle is comparatively open, from which he clears all the dead leaves and weeds for a space of six or eight yards square, until nothing but the bare clean earth remains; and thereafter he keeps the place scrupulously clean, removing carefully every dead leaf or twig that may happen to fall on it from the trees above. These clear spaces are undoubtedly used as dancing-grounds; but personally I have never seen a bird dancing in them, but have always found the proprietor either seated quietly in or moving backwards and forwards slowly about them, calling at short intervals. Except in the morning and evening, when they roam about to feed and drink, the males are always to be found at home, and they roost at night on some tree quite close by.

"They are the most difficult birds I know of to approach: a male is heard calling, and you *gradually* follow up the sound, taking care not to make the slightest noise, *till at last the bird calls within* a few yards of you, and is only hidden by the denseness of the intervening foliage; you *creep forward*, hardly daring to breathe, and suddenly emerge on the open space; but the space is empty, the bird has either caught sight of or heard or smelt you, and has run off quietly. They will never rise, even when pursued by a dog, if they can possibly avoid it, but run very swiftly away, always choosing the densest and most impenetrable part of the forest to retreat through. When once the cleared space is discovered, it is merely a work of a little patience to secure the bird by trapping it."

[R. B. S.]

LOPHOPHORUS DIFFYANUS.

LOPHOPHORUS IMPEYANUS.

Monaul.

Phasianus Impejanus, Lath. Ind. Orn., vol. ii. p. 632.
——— *curvirostris*, Shaw, Mus. Lev. pl. p. 103.
Lophophorus refulgens, Temm. Pig. et Gall.—Ib. Pl. Col. 507, male; 513, female.—Steph. Cont. of Shaw's Gen. Zool., vol. xi. p. 249. pl. 15.
Impeyan Pheasant, Lath. Gen. Syn., Supp., p. 208. pl. 114.—Ib. Gen. Hist., vol. viii. p. 210. pl. cxxv.
Phasianus Impeyanus, Vieill. et Bonn. Ency. Méth. Orn., Part I. p. 186. pl. 88. fig. 1.
Le Monaul Impeyan, Vieill. et Bonn. Ency. Méth. Orn., Part I. p. 366.
Monaulus Impeyanus, Vieill. Gall. des Ois., tom. ii. pl. 208.
Lophophorus Impeyanus, Gould, Century of Birds, pl. 60, male; 61, female.
Impeyanus refulgens, Less. Traité d'Orn., p. 488; Atlas to ditto, pl. 85.
Monaul; *Ghur Monaul*; *Murgh-i-zari* (Golden Fowl). *Murgh Muhshor*; male *Ratteeah*; female *Monaulee*.

The native habitat of this fine bird is the hilly regions of Upper India generally; but chiefly in those portions of the Himalayas which range between seven and ten thousand feet above the level of the sea.

Although it has been described and figured in nearly every work of any importance, no account whatever of its habits had been published until the following interesting details were given "By a Mountaineer," in the "India Sporting Review," the greater portion of which I take the liberty of transcribing.

"The Monaul is found on almost every hill of any elevation from the first great ridge above the plains to the limits of the wooded district, and in the interior it is the most numerous of the game birds. When the hills near Mussooree were first visited by Europeans, it was found to be common there, and a few may still be seen on the same ridge eastwards from Landour. In summer, when the rank vegetation which springs up in the forest renders it impossible to see many yards around, few are to be met with, except near the summits of the great ridges jutting from the snow, where in the morning and evening, when they come out to feed, they may be seen in the open glades of the forest and on the green slopes above. At that time no one would imagine they were half so numerous as they really are; but as the cold season approaches, and the rank grass and herbage decay, they begin to collect together, the woods seem full of them, and in some places hundreds may be put up in a day's walk. In summer the greater number of the males and some of the females ascend to near the limits of the forests where the hills attain a great elevation, and may often be seen on the grassy slopes a considerable distance above. In autumn they resort to those parts of the forest where the ground is thickly covered with decayed leaves, under which they search for grubs; and descend lower and lower as winter sets in, and the ground becomes frozen or covered with snow. If the season be severe and the ground covered to a great depth, they collect in the woods, which face to the south or east, where it soon melts in the more exposed parts, or descend much lower down the hill, where it is not so deep, and thaws sufficiently to allow them to lay bare the earth under the bushes and sheltered places. Many, particularly females and young birds, resort to the neighbourhood of the villages situated high up in the woods, and may often be seen in numbers in the fields. Still in the severest weather, when fall after fall has covered the ground to a great depth in the higher forests, many remain there the whole winter; these are almost all males, and probably old birds. In spring all in the lower parts gradually ascend as the snow disappears.

"In the autumnal and winter months numbers are generally collected together in the same quarter of the forest, though often so widely scattered that each bird appears to be alone. Sometimes you may walk for a mile through a wood without seeing one, and suddenly come to some part, where, within the compass of a few hundred yards, upwards of a score will get up in succession; at another time or in another forest they will be found dispersed over every part, one getting up here, another there, two or three further on, and so on for miles. The females keep more together than the males; they also descend lower down the hills, and earlier and more generally leave the sheltered woods for exposed parts or the vicinity of the villages on the approach of winter. Both sexes are often found separately in considerable numbers. On the lower part or exposed side of the hill, scores of females and young birds may be met with, without a single old male; while higher up, or on the sheltered side, none but males may be found. In summer they are more separated, but do not keep in individual pairs, several being often found together. It may be questioned whether they do pair or not in places where they are at all numerous; if they do, it would appear that the union is dissolved as soon as the female begins to sit, for the male seems to pay no attention whatever to her whilst sitting, or to the young brood when hatched, and is seldom found with them. The call of the Monaul is a loud plaintive whistle, which is often heard in the forest at daybreak or towards evening, and occasionally at all hours of the day. In severe weather numbers may be heard calling in different quarters of the wood before they retire to roost. The call has a rather melancholy sound, or it may be, that as the shades of a dreary winter's evening begin to close on the snow-covered hills around, the cold and cheerless aspect of nature, with which it seems quite in unison, makes it appear so.

"From April to the commencement of the cold season, the Monaul is rather wild and shy, but this soon gives way to the all-taming influence of winter's frosts and snows; and from October it gradually becomes less so, till it may be said to be quite the reverse; but as it is often found in places nearly free from underwood, and never attempts to escape observation by concealing itself in the grass or bushes, it is perhaps sooner alarmed, and at a greater distance, than other pheasants, and may therefore appear at all times a little wild and timid. In spring it often rises a long way in front, and it is difficult to get near it when it again alights, if it does not at once fly too far to follow; but in winter it may often be approached within gun-shot on the ground, and when flushed it generally alights on a tree at no great distance, and you may then walk quite close to it before it again takes wing.

"In the forest, when alarmed, it generally rises at once without calling or running far on the ground; but on the open glades or grassy slopes, or any place to which it comes only to feed, it will, if not hard pressed, run or walk slowly away in preference to getting up; and a distant bird when alarmed by the rising of others will occasionally begin and continue calling for some time while on the ground. It gets up with a loud fluttering and a rapid succession of shrill screeching whistles, often continued till it alights, when it occasionally commences its ordinary loud and plaintive call and continues it for some time. In winter when one or two birds have been flushed, all within hearing soon get alarmed; if they are collected together, they get up in rapid succession; if distantly scattered, bird after bird slowly gets up, the shrill call of each as it rises alarming others still further off, till all in the immediate neighbourhood have risen. In the chestnut forests, where they are often collected in numerous bodies, where there is little underwood, and the trees, thinly dispersed and entirely stripped of their leaves, allow of an extensive view through the wood, I have often stood till twenty or thirty have got up and alighted in the surrounding trees, then walked up to

the different trees and fired at those I wished to procure without alarming them, only those close being disturbed at each report. In spring they are more independent of each other's movements, and though much wilder, are more apt to wait till individually disturbed. When they alight in the trees and are again flushed, the second flight is always a long one. When repeatedly disturbed by the sportsman or shikaries, they often take a long flight in the first instance. The seasons also have great influence over them in this respect, as well as in their degree of tameness or wildness. In spring, when the snow has melted in almost every part of the forest, and they have little difficulty in procuring an abundance of food, they appear careless about being driven from any particular spot, and often fly a long way; but in winter, when a sufficiency of food is not easily obtained they seem more intent on satisfying their hunger, and do not so much heed the appearance of man. The females appear at all times much tamer than the males. The latter have one peculiarity, not common in birds of this order: if intent on making a long flight, an old male after flying a short way will often cease flapping his wings, and soar along with a trembling vibratory motion at a considerable height in the air, when, particularly if the sun be shining on his brilliant plumage, he appears to great advantage, and certainly looks one of the most magnificent of the Pheasant tribe.

"In autumn the Monaul feeds chiefly on a grub or maggot which it finds under the decayed leaves; at other times on roots, leaves and young shoots of various shrubs and grasses, acorns and other seeds and berries. In winter it often feeds in the wheat and barley fields, but does not touch the grain; roots and maggots seem to be its sole inducement for digging amongst it. At all times, and in all seasons, it is very assiduous in the operation of digging, and continues at it for hours together. In the higher forests, large open plots occur quite free from trees or underwood, and early in the morning or towards evening, these may often be seen dotted over with Monauls, all busily engaged at their favourite occupation.

"The Monaul roosts in the larger forest trees, but in summer, when near or above their limits, will often roost on the ground, in some steep rocky spot. The female makes her nest under a small overhanging bush or tuft of grass, and lays five eggs of a dull white speckled with reddish brown; the chicks are hatched about the end of May. The flesh is considered by some as nearly equal to turkey, and by others as scarcely eatable. In autumn and winter, many, particularly females and young birds, are excellent, and scarcely to be surpassed in flavour or delicacy by any of the tribe; while from the end of winter most are found to be the reverse. They are easily kept in confinement, and one would imagine might, without much difficulty, be naturalized in Europe.

"The young males for the first year nearly resemble the females, but may easily be distinguished by the white feathers on the chin and throat being spotted with black; the vent-feathers are also marked with the same, and the whole plumage has a darker and rather glossy appearance. When changing their plumage, they appear spotted all over with the brilliant metallic hues, &c. &c.; the second year they receive the whole of their splendid colours, with the exception of the seventh long feather of the wing, which keeps the brown colour for another year."

It is somewhat singular that this gorgeously plumaged gallinaceous bird should not, like the Common Pheasant, have long since been naturalized in Europe: Lady Impey endeavoured to introduce living examples into this country in the latter part of the last century, but unfortunately the attempt was unsuccessful; had it been otherwise, it is highly probable that by this time it might have become an ornament of our woods and an object of pursuit to the sportsman: what Lady Impey failed to do, has, however, been accomplished by others; Lord Hardinge, late Governor-General of India, brought many living examples of both sexes to England, some of which are in the possession of His Royal Highness Prince Albert, and a pair grace the fine collection of birds at the Zoological Gardens in the Regent's Park; and at this time, June 1850, both native- and English-bred individuals may be seen in the aviary of the Earl of Derby at Knowsley; a circumstance which tends to prove that were its introduction attempted on a large scale, it would be successful.

I am indebted to the Earl of Derby for the following interesting account of the success which has attended the rearing of one or two broods of Monauls in his Lordship's menagerie, and at the moment of going to press with this paper, I hear that a batch of young from seven eggs is daily expected.

"I fear that on the subject of the Impeyan Pheasants I shall not be able to give you any important intelligence. My first pair of these birds was purchased in 1846, and just before I visited London in the spring of 1847, I was somewhat surprised, as they had never been observed to pair, by the hen laying an egg, and a few days after a second. For the reason above mentioned, and from the circumstance of no sort of nest having been made, I had no expectation that these would hatch, but that no chance might be lost, they were placed under a common hen, and when I returned to Knowsley I was much pleased to find they had both proved productive; two or three more were afterwards laid by the same hen in the same way, but these were good for nothing. The two chicks that were hatched, were also reared through the following winter, and proved both hens, but as they did not agree with the parents, and I had no second male, I was obliged to keep them separate, and both died in the course of the next year. The old pair bred again in 1849: about this time I received a copy of the 'Calcutta Sporting Review,' wherein I found it stated that the Impeyan Pheasant in its own country only lays five eggs; I therefore desired Thompson, as soon as that number had been laid, to set them, the mother having made no nest, nor evinced any disposition to sit upon them herself. This was of course done, and in due time four of them were hatched. Contrary to the statement in the Review, the bird continued laying; but still having faith in the assertion there made, the eggs laid were set at different periods, and it is odd enough that in each of these detachments of four, three, and two eggs respectively, one proved to be addled, while all the rest were fertile. I believe the bird laid in all about thirteen or fourteen eggs, and that at one time I had either nine or ten chicks alive, and I am inclined to attribute our success to the eggs having been set while yet so very fresh. Unfortunately here my success stopped, for the birds that were hatched, one after another drooped, apparently from cramp, and died, leaving me at last with only one chick of this year, a fine healthy, but apparently hen bird, now quite as large as the mother, but which we keep separate from the others. As to the egg, in size, general colour and markings, it strongly assimilates to that of the Capercailzie."—Knowsley, Nov. 15, 1849.

A broken egg, kindly transmitted to me by his Lordship's direction, is of a pale buff with small spots of reddish brown or chestnut, about two inches and three-quarters in length by about one inch and seven-eighths in breadth, and, as his Lordship observes, is very similar in appearance to the egg of the Capercailzie.

The male has the crest, head and throat metallic bronzy green; middle of the neck purple, glossed with a coppery hue becoming paler or yellowish on the lower part, and all exceedingly brilliant and iridescent; back- and wing-coverts rich purple, each feather tipped with bronzy green; across the lower part of the back a broad band of pure white; primaries black; under surface and thighs dull black glossed with green; tail cinnamon-brown; irides brown; bill dark horn-colour; orbits blue; legs and feet greenish ash.

The female buffy brown, each feather striped and spotted with deep brown; chin white; quills black; secondaries alternately barred with black and red; bill, orbits, irides and feet as in the male.

The Plate represents the two sexes about two-thirds of the natural size, from a spirited sketch in oil, taken by Mr. Wolf from the living birds in the Gardens of the Zoological Society.

LOPHOPHORUS LHUYSI. *A Geoff. St-Hil.*

LOPHOPHORUS L'HUYSI, *A. Geoff. St.-Hil.*

De l'Huys's Monal.

Lophophorus l'Huysi, J. Verr. et A. Geoff. St.-Hil. Bull. Soc. Accl., ser. 2, 1866, tom. iii. p. 223, pl.—Sclat. Proc. of Zool. Soc., 1868, p. 1. pl. 1.—G. R. Gray, Handl. of Birds, part ii. p. 261.—Elliot, Mon. Phas., vol. i. pl. xix.—David, Nouv. Archiv. du Mus., tom. vii. Bull. p. 11.

When the exclusiveness of the Chinese authorities ceased to exist, and their great country with its many varied aspects was opened to the world, naturalists presumed that there would be found numerous objects in each department of science of the greatest interest; but certainly ornithologists were not prepared for the discovery of the splendid bird forming the subject of the present memoir. We all thought and believed that the beautiful Himalayan *Lophophorus Impeyanus* could not be excelled in the richness of its metallic colouring by a species from any other country, and moreover were inclined to suppose that that species was the sole member of its genus. Here, however, we were deceived; for the present bird is a successful rival to its Himalayan brother. In size it is about a third larger, while its flowing crest is still more beautifully coloured. It is to the distantly located French Consuls and their still more enterprising missionaries that we are indebted for our knowledge of the existence of the *Lophophorus l'Huysi*, its godfathers being MM. Jules Verreaux and Albert Geoffroy St.-Hilaire—just as the venerable Latham was of the *L. Impeyanus*, which he named in honour of the wife of one of our Indian judges.

As might be expected, skins of this bird realized a large sum for their collectors. The British Museum became the possessor of the first pair, which unfortunately are not in good condition; subsequently, on the return of Père David, Mr. Elliot obtained a second pair. We then, for the first time, saw the bird in all its glory; and I must here express my thanks to Mr. Elliot for his liberality in intrusting these skins to my care for the purpose of figuring them in the present work. The figures, which are about two thirds the size of life, will give but a faint idea of the colouring of the originals; still I trust the Plate will be regarded with interest.

All that is known with respect to the habits and the localities frequented by the *Lophophorus l'Huysi* is embodied in Mr. Elliot's account of it in his 'Monograph of the Phasianidæ,' which I take the liberty of transcribing.

"This magnificent bird, the second known species of the genus which had hitherto contained the most brilliant member of the Phasianidæ (as in the beauty of its rich metallic plumage it defied comparison with any other of the family), was first made known to ornithologists by MM. J. P. Verreaux and Albert Geoffroy St.-Hilaire, who described it in the publication above referred to. It was procured by M. Dabry, French Consul at Han-Keow, who stated that it came from the 'diocese of Moupin, at the foot of the mountains of Chinese Thibet, and watered by the upper Yank-tse-Kiang.' This discovery is most interesting to science on account of the genus having thus far comprised but a single species, described for the first time in 1790 by the naturalist Latham in his 'Index Ornithologicus' under the name of *Phasianus impeyanus*, which inhabits the mountains of the Himalaya, in a climate analagous to that where the present bird is found, as it frequents elevated and inaccessible regions, sometimes covered with snow. . . . Let us hope that M. Dabry will not delay to send to the Jardin d'Acclimatation some living examples of the wonderful creature which he has discovered, and that very soon we shall see it in company with the *Lophophorus impeyanus*, of which, on account of its beauty, it may justly be styled a rival.

"As yet the hope expressed in the above has not been fulfilled; for no living examples have reached any part of Europe, and the single pair which were the type of the species remained unique in the British Museum, where they were deposited, until another pair in even finer plumage were received at the museum in the Jardin des Plantes from the Missionary Père David, who procured them also in Chinese Thibet.

"In size the present species is even larger than its relative the *L. impeyanus*, and must present a most beautiful sight to the sportsman when, suddenly flushed, it rises on the wing displaying the rich metallic hues of its burnished plumage flashing in the rays of the sun. Its crest is much fuller than that of the Monal, and the long feathers have their tips of a rich purple colour, continually changing to a more brilliant or deeper shade as it is moved from or towards the light.

"*Male.*—Head and lengthened crest green, with rich purple reflections; back of the neck and the upper part of the back metallic red; wings green, with blue and purple reflections; primaries brown; rump and part of the tail-coverts white, the centre of the feathers green; tail and long coverts green, with spots of white on the outer webs; entire underparts black, with rich green reflections on the margins of the feathers; bill horn-colour; tarsi and feet lead-colour.

"*Female.*—Brown, mottled with black; rump white.

"Habitat.—Moupin in Chinese Thibet (*Dabry*); Llassa in Thibet (*J. J. Stone*)."

The figures represent the two sexes, about two thirds the size of life.

CHALCOPHASIS SCLATERI.

Wm. & W. Hart del. et lith.

Walter Inn.

CHALCOPHASIS SCLATERI.

Sclater's Monaul.

Lophophorus Sclateri, Jerd. Ibis, 1870, p. 147.—Idem, Journ. Asiat. Soc. Beng., 1870, p. 61.—Sclat. Proc. of Zool. Soc. 1870, p. 162, pl. xiv.—Elliot, Mon. of Phas., vol. i. pl. xx.
——— (*Chalcophasis*) *Sclateri*, G. R. Gray, Hand-list of Birds, part ii. p. 261.

It is beyond the eastern extremity of our Indian territories that we must look for the present fine bird, where it will doubtless be found in as great an abundance as the *Lophophorus Impeyanus* and *L. l'Huysi* are in their respective habitats. At present, however, as will be seen in the sequel, a single example of this species is all that has yet been discovered. This was brought down from the hills to a country fair in the valley of Assam, where it was seen by the late Dr. Jerdon, who at once perceived that, although in a very indifferent state of plumage, it was an object of great interest and value. From Assam it was safely conveyed to Calcutta, and afterwards to England, where it lived and moulted more than once, in the gardens of the Zoological Society, and where the Fellows and their friends and thousands of visitors had an opportunity of seeing this fine object in a living state. Ornithologists noted that it was very peculiar in its actions and economy, and were at a loss to know why a bird of such moping habits, and of such a heavy and inelegant gait, should have been clothed in so resplendent a dress; yet such is the case, and I quite agree with Mr. Elliot's view when he assigned it a separate distinctive generic title; for it certainly does not assimilate to the *Lophophori*, whose movements are at once sprightly and attractive.

Time, and time alone, can unfold to us a correct account of this remarkable bird, as it has done of many other of nature's manifold wonders.

Although, as will be seen, Mr. Elliot subsequently changed its generic appellation, he commences his account of the bird by saying:—"This constitutes the third species of the genus *Lophophorus*, which is distinguished by comprising the most brilliantly coloured of the Phasianidæ. Sclater's Monaul, however, is not so handsome as either of the other two species, being destitute of the greater portion of the metallic hues which cause its relatives to be such attractive objects. The only specimen known, which is now living in the gardens of the Zoological Society of London, was obtained in Upper Assam, described by Dr. Jerdon, and forwarded by him to the Society.

"I am favoured by Dr. Jerdon with the following short account of the species, which comprises all that is known regarding it. 'At Suddya, our frontier station at the head of the valley of Assam, a Nula, or Fair, is held annually in February, to which most of the hill tribes come and are entertained by the Deputy Commissioners of the district at the expense of the Government, and get presents of rum, opium, salt, tobacco, &c. A living specimen of the *Ceriornis Blythii* was brought down and given to the Deputy Commissioner Major Stewart whilst I was with him, by some of the Mishmi tribes. At the same time and place Major Steward also received one living specimen of the *Lophophorus Sclateri*. It was in very bad plumage; and though I saw at once it was a distinct species, I could not then describe it. He brought it to Shillong and gave it to Major Montagu. It moulted when in the possession of that gentleman. I was then enabled to describe it briefly in 'The Ibis.' I persuaded Major Montagu to allow me to forward it, in his name, to the Zoological Society. I took charge of it in November, brought it safely to Calcutta, and kept a servant of my own to look after it and the specimen of *Ceriornis Blythii* until they were put on board a steamer. They were very tame, and fed readily from the hand. They were particularly fond of the leaves of lettuce and cabbage; I fed them with rice and maize.'

"Sclater's Monaul cannot be said to be very graceful: the body is thick and heavy, and the legs short; the head is also large for the size of the bird, causing it to present a rather stupid appearance, quite different from the game-like heads of the other members of this family, and even of those to which it is nearest allied. From its not possessing the lengthened crest which is so characteristic and so elegant an appendage to the other two species of this genus, and also from the peculiar bronze hue of the back, I have deemed it best to include this one in a separate subgeneric division under the appellation of *Chalcophasis*, or Bronze Pheasant.

"Top of the head covered by a short recurved green crest; occiput, cheeks, throat, and entire underparts deep velvety black; back of the neck red, becoming orange-yellow on the lower part; back and wings metallic green, with blue and purple reflections; shoulders reddish bronze; primaries brownish black; rump white, with narrow black lines running lengthwise in the centre of the feathers; upper tail-coverts white; tail deep chestnut, tipped with white; bare skin of the face deep blue, covered with spots of black hair-like feathers; legs and feet brown; bill greenish horn-colour."

The front figure is about two thirds of the natural size.

GALLUS SONNERATI, *Temm.*

J. Gould & W. Hart. del. et lith.

Walter Imp.

GALLUS SONNERATI.

(Sonnerat's Jungle-fowl.)

Coq sauvage des Indes, Sonn. Voy. Ind. ii. p. 153, pl. xciv. (1782).
Poule sauvage des Indes, id. *t. c.* p. 160, pl. xcv. (1782).
Wild Cock, Lath. Gen. Synopsis, ii. pt. ii. p. 698 (1783).
Phasianus gallus, Gm. Syst. Nat. i. p. 737. no. 1 (1788).—Lath. Ind. Orn. ii. p. 625 (1790).
Gallus sonneratii, Temm. Pigeons et Gallin. iii. p. 659 (1815).—Id. Pl. Col. v. pls. 232, 233 (1825).—Gray, Gen. B. iii. p. 499 (1845).—Blyth, Ann. Nat. Hist. xx. p. 389 (1847).—Blyth, Cat. B. Mus. A. S. B. p. 243 (1849).—Burgess, P. Z. S. 1855, p. 29.—Bp. Comptes Rend. 1856, p. 879.—Sacc, Rev. et Mag. de Zool. 1862, p. 11, pl. iii.—Sclater, P. Z. S. 1863, p. 122.—Gray, List Gallinæ Brit. Mus. p. 39 (1863).—Jerd. Birds of India, iii. p. 539 (1864).—Elliot, Monogr. Phasianidæ, ii. pl. xxxiv. (1872).
Phasianus indicus, Leach, Zool. Misc. ii. p. 6, pl. 61 (1815).

Although this bird has been known to science for so many years, our information respecting it cannot be called extensive; and the notes which Mr. Elliot published in his 'Monograph' still contain nearly the whole of it. I therefore transcribe from his book the following observations:—"This, the handsomest of the Jungle-fowl, is found in the southern part of India; and by the singular spots upon the hackles, as though yellow sealing-wax had been dropped upon them, it is easily distinguished from all the other members of the genus. For a description of its habitat, as well as some interesting remarks on its mode of living, I quote from Jerdon:—'This handsome Jungle-fowl is found in Southern India only, extending on the east coast to a little north of Godavery, in Central India, to the Pachmarri or Mahadeo hills, north of Nagpore, and on the west coast to the Rajpeehla hills, where it meets the Red Jungle-fowl. Its occurrence on the Pachmarri hills is most probably its eastern extension from the Western Ghâts and the Rajpeehla hills; and it will probably be found all along the Sathpoora range. I do not know of its occurrence east of the Mahadeo hills, till the neighbourhood of the lower part of the Godavery is reached. It is very abundant on the Malabar coast, especially in the more elevated districts, as in the Wynaad, and it ascends to the summit of the Neilgherries; it is also common in suitable localities on the Eastern Ghâts, and in the various ranges in the south of India. It is not rare in the Naggery Hills, near Madras, and is constantly brought for sale to the Madras market.

"'Like *Gallus ferrugineus* it is particularly partial to bamboo jungles. Early in the morning, throughout the Malabar coast, the Wynaad, &c., Jungle-fowl may always be found feeding on the roads; and with dogs you are certain of getting several shots on the roadside, the birds perching at once on being put up by dogs. In some districts where they can be beaten out of the woods, and especially on the Neilgherries, very pretty shooting is to be had at this Jungle-cock, the sharply defined woods (or sholas, as they are called) being well adapted to being beaten for game. The hen lays from February to May, generally having from seven to eight eggs of a pinky cream-colour, under a bamboo clump. The call of the cock is very peculiar, being a broken and imperfect kind of crow, quite unlike that of a Red Jungle-cock, and impossible to describe.'

"Mr. Blanford, in a communication to the Journal of the Asiatic Society upon the geographical distribution of the Red and Sonnerat Jungle-fowls, says:—'I regret very much having been the means of misleading Dr. Jerdon as to the distribution of the Red Jungle-fowl. I had been told by two different observers that they had seen and shot Jungle-fowl, exactly like the common Barndoor-fowl, in and near the Rajpihla hills; and a third had assured me that he had seen specimens of two different kinds from the same neighbourhood. I have now been through the Rajpihla hills, and the Western Satpooras pretty thoroughly, and I am convinced that the only Jungle-fowl inhabiting those ranges is *Gallus sonnerati*. This species is also found north of the Nerbudda, in the jungles east of Baroda, around Chota Oodipoor; but how far it extends to the north and north-west I cannot say. It is not improbably to be found in the Aruvelli range, and perhaps Mount Aboo. It occurs throughout the Satpoora hills, north of Kandesh, and, indeed, throughout the Taptee valley. Further south I have recently shot it in the jungles just east of Chanda. Jerdon mentions its occurrence at Pachmurri, where, however, I learn from Lieut. J. Forsyth that *G. ferrugineus* also occurs. Lieut. Forsyth adds that the two kinds of Jungle-fowl meet on the plateau at Pachmurri, and he has shot both there.'"

The following is Mr. Elliot's description of the bird :—

"The *male* has the back part of the head covered with short black feathers, the shafts white, widening at the ends into a kind of spatule. The hackles are very long, covering the entire neck, black, covered at regular intervals with white spots, and tipped with a yellowish spot, the end of the feather being formed of a singularly brittle substance, resembling a fine shaving in texture. The upper parts are blackish brown, edges of the feathers grey, and the shafts white. The upper tail-coverts like the back, the feathers long and lanceolate in shape, spotted with buff near the end, and margined with chestnut near the tip. Under-parts black, shafts of feathers white, and the centres and margins greyish white; some of the flank-feathers have the terminal margins chestnut. Primaries dark brown, as are also the secondaries; a large patch upon the wing, the feathers of which have their centres white, terminating in red, and formed of the same brittle substance as the ends of the hackles, making a very conspicuous and ornamental spot. The comb is small, serrated at the edge, and, together with the naked skin of the face and throat and also the wattles, is red. Upper tail-coverts and tail blue, with green reflections, the two central tail-feathers being very long and curving downwards. The feet and tarsi are flesh-colour; bill horn-colour.

"The *female* has the top of the head light brown; neck light brown, shafts white, and margins black. Rest of upper surface rufous brown, mottled with black; shafts white. Breast and flanks white, margins of the feathers black. Abdomen white; tail dark brown, mottled near the edges with rufous brown. Small extent of bare skin around the eyes red. Bill yellowish; feet and tarsi flesh-colour."

The figures are rather under the natural size.

SYPHEOTIDES AURITUS.

J. Gould, and H.C. Richter, del. et lith.

Walter, Imp.

SYPHEOTIDES AURITUS.

Lesser Florikin.

Otis aurita, Lath. Ind. Orn., vol. i. p. 660.—Less. in Belanger's Voy. aux Ind. Orient., p. 278; Atlas Ois., pl. 10.—Jard. and Selb. Il. Orn., vol. i. pl. 40, and vol. ii. pl. 92.—Jerd. Ill. Ind. Orn., pl. xxxiii.

—— *fulva*, Sykes, in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part ii. 1832, p. 155.

—— *marmorata*, Hardw. and Gray, Ill. Ind. Zool., p. 60.

Eupodotis aurita, Gray, Gen. of Birds, vol. iii. p. 533; *Eupodotis*, sp. 18.

Sypheotides auritus, Gray, List of Spec. of Birds in Coll. Brit. Mus., part iii. p. 57.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 259.—Jerd. Birds of India, vol. ii. part ii. p. 619.

Passarage Bustard, Lath. Gen. Syn. Supp., p. 228.—Id. Gen. Hist., vol. viii. p. 365.

Charaz or *Charas*, Hindoos in the South of India. *Chulla-charz*, Hindoos of some parts of India. *Likh*, Hindoos in Hindoostan.

Tan-mor of the Mahrattas. *Kan-noul*, Canarese. *Niala nimili*, Telinga. All three names signify Ground Peafowl. *Wurragu Koli*, Tamool.

Khartitar of the Bheels near Mhow, *i. e.*, Grass Partridge, vulgo *Ghas Ka murghi* or Grass-fowl. (Jerdon.)

How profusely ornamented are the males of most, if not all, the members of the *Otididæ*, or family of Bustards!—some being adorned with a lengthened crest, others with plumes on the neck or springing from the ears, and others, again, being distinguished by some peculiar coloration of the body. In every case, I believe, these adornments are seasonal, and only retained during the period of reproduction; for their assumption by the male is always accompanied by demonstrations of love for the female. In no instance, perhaps, is ornamentation more singularly displayed than in the species here represented—one of the smallest members of its family; curiously enough, also, in this instance the male is smaller than the female, a circumstance which combined with the difference in its colouring during the breeding-season, has sadly puzzled many of the travellers and residents in India, by whom the bird has been considered as two distinct species. But Mr. Jerdon has satisfactorily proved, both in his 'Illustrations of Indian Ornithology' and in his 'Birds of India,' that the Common and Black Florikin, as it is called in that country, are one and the same species. His reasons for believing them to be identical are:—

"1st. All *Black Florikins* hitherto examined have been male birds.

"2ndly. The *Black Florikin* agrees exactly in size and comparative dimensions with the male of the *Common Florikin*, but more especially in the length of wing and in the acumination of the primary quills, the essential point of difference from the female.

"3rdly. Some black feathers are in general to be found on every cock-bird, not, however, always noticeable till the feathers of the abdomen are pulled aside; and this mottling varies from a feather or two to so many that the specimen would be considered by sportsmen a *Black Florikin*.

"4thly. I have watched the progressive change in birds at Jalnah, where a few couple always remain and breed, from the garb of the female to the perfect *Black Florikin*, and back again from this, the nuptial plumage, to the more sober livery of the rest of the year.

"5thly. I have seen more than one specimen of the cock-bird in the grey plumage which, from some cause or other, had not as usual dropped the long ear-feathers; but these had, in conformity with the change in the system causing this alteration of plumage, become white.

"These reasons will, I trust, be sufficient to convince the most sceptical of the identity of the Common and Black Florikin. Other testimony might be brought forward in support, but I shall cite only that of Lieut. Foljambes, in a brief paper in the 'Journal of the Asiatic Society of Bengal,' who, from observations in Guzerat, where they appear very numerous, states it as his belief that they are the same bird, but that the Black one is only met with in Guzerat during the monsoon, which is the breeding-season."

"The Leek or Lesser Florikin," continues Mr. Jerdon, "is found throughout India, from near the base of the Himalayas to the southernmost districts, but has not, I believe, been seen in Ceylon. It is more rare in Northern India and Bengal, but has been killed even in Arrakan. It is most abundant in Central and Western India during the rains, and in Southern India in the cold weather; whilst those that have occurred in Bengal and the neighbouring districts have chiefly been seen in the hot weather or commencement of the rains. I saw it on the banks of the Ganges in April and May, and know of its having been occasionally killed in Purneah in May and June. In the Carnatic, Mysore, the Deccan, and Northern Circars it is chiefly found in the cold weather, from October to February and March; and in the westernmost portion of Central India and Western India, Guzerat, the neighbourhood of Malwah and Indore, and the southernmost portion of Rajpootana chiefly during the rains, from June to September. The few that I saw in Sangor

and the neighbouring country occurred during the hot weather, at which time they leave the dried-up districts of Southern India and migrate north in search of suitable shelter and food. As great part of the eastern portion of Central India, from the Godavery to Midnapore and Chota Nagpore, consists more or less of forest and jungles, the majority are drawn westward into Malwah, Rajpootana, and Guzerat. Few occur in Malabar, but in Southern Canara there is at least one locality where they may be found in cold weather.

"The Lesser Florikin frequents long grass in preference to any other shelter; it is, however, often to be met with in grain-fields, in fields of cotton and dholl, and in the Carnatic so much in those of the grain called *Warragoo*, as to be called in Tamool *Warragoo kolee*, or *Warragoo* Fowl. It feeds chiefly in the morning, and is then easily raised; but during the heat of the day it lies very close, and is often flushed with difficulty. I have known an instance of one being killed by a horse stepping on it. Now and then an exceedingly wary one is met with, which runs to a great distance and takes wing well out of shot. When walking or running it raises its tail, the central feathers being those most elevated, while the lateral ones diverge downwards, as in domestic fowls, &c. The chief food of the Florikin is grasshoppers, but I have also found blister-beetles (*Mylabris*), *Scarabæi*, centipedes, and even small lizards in the stomachs of those I have examined. When flushed suddenly it utters a kind of sharp "quirk" or note of alarm, and it is said also to emit a feeble plaintive chirp or piping note when running or feeding. Its flesh is very delicate and of excellent flavour, and in India is the most esteemed of all the game birds. Its pursuit is consequently a favourite sport, and, from the open nature of the ground it frequents, it is well adapted for being hawked. I have killed it occasionally with the *Lugger* (*Falco jugger*), but generally with the *Shaheen* (*Falco peregrinator*). Should the latter miss her first stoop, I have known the Florikin accelerate its speed so greatly that the Falcon was unable to come up with it again under 600 yards or more. I have seen one struck dead by the *Wokhab* (*Aquila vindhiana*); I have slipped a *Lugger* at it, which was in hot pursuit, though at some little distance behind, when two of these Eagles came down from a vast height and joined in the chase. One of them made a headlong swoop at it, which the Florikin most skilfully avoided, only, however, to fall a victim to the talons of the other, which stooped almost immediately after its confederate, and dashed the poor bird lifeless to the ground. It had not, however, time to pick it up, for I rode up, and the Eagles soared off most unwillingly, and circled in the air above me for a length of time. The Florikin had its back laid open the whole length.

"A few appear to breed in all parts of Southern India from July to November, for I have put the hen-bird off her nest in August in the Deccan, and in October near Trinchinopoly; and have heard of the hen incubating still later, up to January indeed; but the majority breed, in Guzerat, Malwah, and Southern Rajpootana, from July to September. I have found the cock-bird commencing the assumption of the black plumage at the end of April, and have killed examples with the black ear-tuft just beginning to sprout, but with hardly any other black feathers appearing. In other instances I have noticed that the ear-tufts did not make their appearance until the bird was quite mottled with black. The full breeding-plumage is generally completed during July and August, at which season the male bird generally takes up a position on some rising ground, from which it wanders but little, for many days even; and during the morning especially, but in cloudy weather at all times of the day, every now and then rises a few feet perpendicularly into the air, uttering at the same time a peculiar low croaking call, more like that of a frog or cricket than that of a bird, and then drops down again. This is probably intended to attract the females, who before their eggs are laid, wander greatly; or perhaps to summon a rival cock, for I have seen two in such desperate fight as to allow me to approach within thirty yards before they ceased their battle. The female lays her eggs in some thick patch of grass; they are four or five in number, of a dark olive colour, with or without a few darker blotches, of a very thick stunted, ovoid form, very obtuse at the larger end. During this season the females are very shy or wary, seldom rising, though often running great distances; and when closely approached and unable to run further, perhaps without being seen, squatting so close as to allow a man or dog almost to tread on them before they take flight."

The male during the breeding-season has the head, neck, ear-tufts, middle wing-coverts, and under surface black; chin, lower part of the neck behind, and a large patch on the wing white; remainder of the plumage light brown, beautifully mottled with dark brown; three outer primaries dull brown, the remainder barred and mottled with dark brown; irides pale yellow, clouded with dusky; bill dark brown above, the edges of the upper and the lower mandible yellowish.

The female is fulvous yellow, with the head, back, wings, and tail clouded and barred with deep brown; on the front, at the neck, two irregular brownish streaks; chin and throat white; under surface dull white; bill, legs, and irides as in the male.

The Plate represents the two sexes about the natural size.

OTIS MACQUEENI. *Hard. & Gray*

OTIS MACQUEENI, *Hardw. and Gray.*

MacQueen's Bustard.

Otis Macqueeni, Hardw. and Gray's Ill. Ind. Zool., vol. ii. pl. 47.—Gould in Proc. York Phil. Soc., vol. i. p. 94.
Houbara Macqueenii, List of Birds in Brit. Mus. Coll., Part III. p. 57.—Hutton, Journ. Asiat. Soc. Beng., vol. xvi. p. 786.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 258.
Eupodotis Macqueenii, Gray and Mitch. Gen. of Birds, vol. iii. p. 533, *Eupodotis*, sp. 20.
Otis tetrax, Rob. in Zoologist, vol. vi. p. 1969.
—— *Houbara*, Rob. in Ib., vol. vi. p. 2065.

Every ornithologist is acquainted with the *Otis Houbara*, while few collections are adorned with examples of the species forming the subject of the present memoir; the great strongholds of which are the western parts of Asia, particularly the countries of Beloochistan and Cabul, whence its range extends northwards over the Plains of Tartary and westwards over those of Persia and Arabia, in which latter country it inosculates with the true *Otis Houbara*, both species being there found. The interest which attaches to this bird is greatly enhanced, by its being now added both to the list of European species, and to the Fauna of our own island; a fine specimen, in the Museum of the Philosophical Society at York, having been shot by Mr. G. Hansley in a stubble-field on Kirton Cliff, Kirton Lindsey, Lincolnshire, on the 7th of October 1847, and another example killed on the 13th of December 1845, on the plain between Woluwe St. Etienne and Dieghem, a league from Brussels. This latter specimen, a fine adult male, is now in the Museum of Natural History at Brussels. The Vicomte DuBus, who furnished me with this information, also informed me that he ate part of the body, and that it equaled in every respect the character given by Latham and others of the flesh of the Houbara, which they say is of the highest flavour.

Captain Hutton states that the *Otis Macqueeni* is common and remains all the year on the bare stony plains of Afghanistaun, where it is sometimes to be seen in small packs of five or six together. It flies heavily and for short distances, soon alighting and running. Mr. Blyth says, that according to a writer in the Bengal Sporting Magazine, it frequents dry sandy plains where there is a little grass, and is also found in grain and wheat fields. Its flesh, which is exceedingly tender, is so covered with fat that the skins are with difficulty dried and preserved. Capt. Boys, during the many years he had collected in the upper provinces, never obtained more than one specimen, which was procured at Hansi in December; but in Scinde it is tolerably numerous.

The specific distinctions of the *Otis Macqueeni* as compared with *O. Houbara* are slight, but the fine black-tipped crest-feathers, grey neck, lighter colouring of the upper surface, which is also much less strongly marked with brown, together with its smaller size, are characters by which it may at all times be distinguished from the latter species. The specimen killed in Lincolnshire appears to be a female in the post-nuptial dress; its craw was filled with caterpillars of the Common Yellow Underwing Moth, small shelled snails, beetles, &c.

Forehead, sides of the head, upper part of the back of the neck, buff penciled with black; crest-feathers white at the base and black for the remainder of their length; nape and base of the neck whitish; on the sides of the neck a series of plumes gradually increasing in length, the upper two-thirds of which are black; of the remainder some are white, others black, and others white at the base, and black for their apical half; upper surface isabella-brown or sandy buff, minutely penciled with black, the pencilings increasing in breadth and intensity here and there so as to form irregular bars across the feathers, these darker markings becoming larger and more conspicuous as they proceed posteriorly; rump without these darker pencilings; upper tail-coverts and tail similarly marked and crossed by bands of grey, which increase in size towards the tip; the tail is moreover washed with rufous and terminated with buffy white; wing-coverts buffy white, penciled with black; first five primaries white at the base, and black for the remainder of their length, the remainder of the primaries and secondaries black, with a transverse mark of white at the tip; throat white; neck and breast light grey; under surface of the wing and abdomen white; lower part of the flanks and under tail-coverts white, penciled and barred with blackish brown; irides yellow; bill blackish horny, except at the base, which is yellowish; legs greenish yellow.

The figures are about two-thirds of the natural size, representing the nuptial and post-nuptial dress.

TANTALUS LEUCOCEPHALUS, *Gmel.*

TANTALUS LEUCOCEPHALUS.

Rosy Tantalus.

Tantalus leucocephalus, Gmel. Edit. Linn. Syst. Nat., tom. i. p. 649.—Lath. Ind. Orn., vol. ii. p. 706.—Forst. Zool. Indic., p. 20, pl. 10.—Penn. Ind. Zool., p. 47.—Temm. Man. d'Orn., 2nd edit. tom. i. p. ciii.—Bonn. et Vieill. Ency. Méth., Orn., part iii. p. 1151, pl. 56. fig. 1.—Sykes in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part ii. p. 160.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 275.—Jerd. Madras Journ. of Lit. and Sci., vol. xii. p. 202.—Kelaart, Prod. Faun. Zeyl., p. 133.—Gray, List of Spec. of Birds in Coll. Brit. Mus., part iii. p. 90.—Bonap. Tab. Syn. des Hérons, in Comp. Rend. de l'Acad. des Sci., Avril 2, 1855, tom. xl.—Burgess in Proc. Zool. Soc., part xxiii. p. 72.—Layard in Ann. and Mag. Nat. Hist., 2nd ser. vol. xiv. p. 115.—Bonap. Consp. Gen. Av., tom. ii. p. 150.—Shaw, Gen. Zool., vol. xii. part i. p. 2.—Tytler in Ann. and Mag. Nat. Hist., 2nd ser. vol. iii. p. 374.

——— *Gangeticus*, Shaw, Nat. Misc., pl. 293.

White-headed Ibis, Lath. Gen. Syn., vol. v. p. 116.—Id. Supp. p. 240.—Penn. Ind. Zool. 4to, pl. xi.—Id. Hind., vol i. p. 212, vol. ii. p. 158.—Id. Outl., vol. iv. p. 128.—Lath. Gen. Hist., vol. ix. p. 160.

Tantalus Indicus, Cuvier, Regn. Anim., tom. i. p. 481 (Blyth).

Dokh of the Hindoos.

Jaunghal in Hindustan (Jerdon).

Kât Sârungâ of the Hindoos (Blyth).

Lamjang and *Lumduck* of the Scindees.

Datudua, Cing., lit. Sickle-bill (Layard).

Changa vella nary, Mal. *Nary* is the general Tamul name for all Storks (Layard).

The subject of the present memoir—the Great Indian Tantalus—stands out so conspicuously among the Grallatores, or Wading Birds, that it may fairly be considered one of the most elegant and beautiful birds of its order. It is fully equal to a Stork in size, being about three feet in height; and although by no means common in our collections, it has been long known to ornithologists. In the early work of Pennant it is not only described, but tolerably well figured; while Latham, Shaw, and all subsequent writers have included it in their general histories. Its range of habitat is very great, extending over the whole of the warmer, lacustrine, and flatter portions of the Indian Peninsula.

The ancient and extensive tanks, forming one of the many evidences of India's former greatness, now (particularly in Ceylon) the constant resorts of Crocodiles, and the nightly rendezvous of the huge Elephant, are also situations frequented by the Rosy Tantalus. After repeating that India generally, including Ceylon, Assam, and Aracan, is inhabited by the bird, I may add that the fine specimen from which my figure was taken was sent to London by M. Mouhôt, from Siam. From the meagre accounts which have reached us respecting its habits and economy, we may gather enough to be assured that it is one of the most useful, as well as one of the most beautiful, of Indian birds. The number of lizards and other reptiles it daily devours appears to be enormous; hence, as is always the case, nature has placed the right bird in the right place; and in no other country, probably, will it ever thrive or be acclimatized, whatever may be the efforts of Societies expressly formed for such a purpose.

I shall now give in detail the few notes that have been recorded by Indian officers respecting this species.

"The *Pelican Ibis* (as it may be termed)," says Dr. Jerdon, "is common all over India, frequenting rivers, tanks, pools, and marshes, generally in parties more or less numerous, and feeding on fish, frogs, and aquatic insects, and also, according to Sykes, on vegetable matter. It perches freely and breeds on lofty trees during the hot weather and monsoon. During the heat of the day, they may be seen standing motionless in the water, knee-deep, digesting their morning's meal: they are said to feed a good deal during the night. The scapulars assume their most beautiful rosy tinge during the hot weather, or breeding-season."

"The Pelican Ibis, as it is called by Dr. Jerdon," says Lieut. Burgess, "is a common bird in the Deccan, frequenting rivers and tanks, and feeding, I believe, chiefly on fish. Its large size renders it remarkable, particularly during the breeding-season, when the back and scapularies attain their rich rosy tint. These birds are social, feeding in flocks. I was told, by the natives of a village close to a tank frequented by them, and near to one of their breeding-places, that when they fish in the tank they walk in the shallow water in a line, driving the fish before them. In another village, about ten miles from the Godavery River, where there are a great number of large banian trees both outside and inside the walls, I found a community of

these birds which had built their nests on them, probably to the number of fifty. The trees inside the walls were as thickly covered with nests as those outside; and the birds, which appeared docile and tame, did not mind the noise of the people passing beneath them. When I visited the village, the young birds were all well fledged, and most of them able to fly. The villagers informed me that the old birds move off to the river in the very early dawn, and, having caught a sufficient supply for their young, return about eight or nine o'clock; a second expedition is made during the afternoon. Some idea of the quantity of fish caught by these birds may be gathered from what the people told me, that quantities of fine fish were dropped by the old birds when feeding their young, and were eaten by them. A young bird of this species, which I shot in Scinde, disgorged a large quantity of small eels. This Ibis breeds during the month of February. The nest is composed of small sticks, and is placed at the top of the trees; if there are many on the same tree, they are placed pretty close together. They lay three or four eggs, of a dull opaque white, nearly $2\frac{6}{10}$ inches in length, by rather more than $1\frac{8}{10}$ inch in width. The young birds are able to fly by the month of May. I kept a young bird, which had dropped from the nest and broken its wing, in my garden for three or four months. It was most gentle and quiet, occasionally snapping its strong beak at any person it did not like. In a short time it recognized the person who fed it; and whenever he made his appearance, it would walk towards him, uttering a piteous cry, flapping its long wings, and bowing its head towards him. It was a most ludicrous sight, which many came to see. It was fed on fresh fish, and would not touch any that were at all tainted. Another young bird which I also kept would devour the bodies of birds brought in for stuffing, and did not appear at all particular as to the quality of its food. The stomach of an old bird contained a grassy substance, the remains of fish, and what appeared to be the claw of a small crab."

Colonel Sykes states that the stomachs of three specimens dissected by him were distended with fibrous vegetable matters in a comminuted state. A fourth contained the same kind of vegetable matters and the half of a carp, nine inches long.

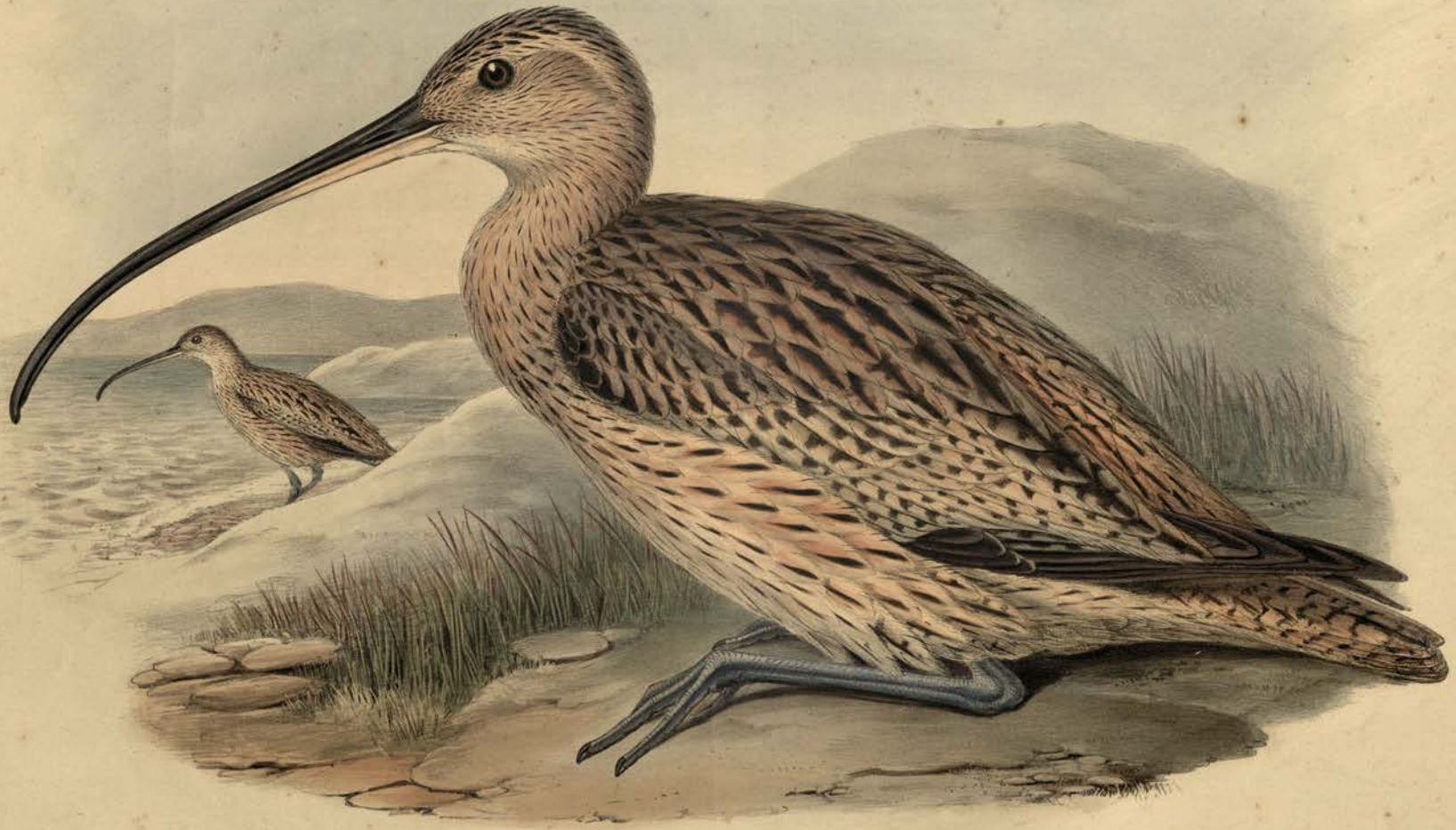
Latham informs us that this bird is very common on the River Ganges, and that in some parts of India it is called the Smaller Adjutant; and he adds that the pink feathers are not unfrequently used as ornaments by the ladies, like those of the Ostrich.

Feathers clothing the neck, breast, and back silky white; upper tail-coverts silky white, suffused with pale rose-colour, deepening into a crescentic form near the tip of each feather; lesser wing-coverts deep olive-green, broadly tipped with dull white; greater coverts dull white; upper portion of the scapularies silky white, suffused in the centre with delicate rose-pink; primaries and secondaries deep green; tertiaries lengthened, and of a lovely rose-pink, which deepens into carmine near the end of each feather, the tip being occupied by a broad, decided crescent of silky white; tail very deep green; across the abdomen a broad band of olive-brown, barred with white, each feather being broadly tipped with that hue; the under wing-coverts are also olive, largely tipped with silky white; lower part of the abdomen, thighs, and under tail-coverts white, slightly suffused with pink; irides yellowish brown; bill, naked part of the face and crown, and the chin-pouch yellowish orange; legs pale dirty pink. Colonel Sykes states that there is "a large diaphanous spot on each side of the base of the upper mandible before the eyes;" this, however, is not perceptible in the dried skin, and hence it has not been noticed.

In the immature state the general colouring is very similar, but the white tips of the abdominal-band feathers and those of the under surface of the wing are more conspicuous, and the neck is clothed with down.

The following is Lieut. Burgess's "Description of a young bird taken on the 20th of April:—Beak dark leaden brown, becoming still darker at the base; skin of the face and forehead of the same hue; feathers of the head brownish grey; those on the neck of an ashy brown, mixed with down; shoulders ashy, with light-brown edges; scapularies similar, but edged with a much lighter ashy hue, the centre of the feathers being the darkest; lesser wing-coverts brownish black, tinged with ashy, and with light ashy edges; greater wing-coverts dark-greyish black, their outer webs tipped with whitish ash-colour, and inner webs tinged with the same colour on their edges; tertiaries similar, but tinged with rose-colour; primaries and secondaries black, with green reflexions; back beautiful pale rose-colour; upper tail-coverts dusky grey; tail black, with bright-green reflexions; breast, belly, and sides covered with beautiful white down, interspersed on the breast with some dark and grey feathers, and on the sides with white, tinged with delicate rose-colour; the whole of the back is also covered with beautiful down. This bird was evidently a nestling, the first feathers having scarcely grown enough to cover the body."

The figure is about half the natural size.



NUMENIUS RUFESCENS, *Gould*

J. Gould and H.C. Richter del. & lith.

Walter & Cohn, Imp.

NUMENIUS RUFESCENS, *Gould.*

Rufescent Curlew.

Numenius rufescens, Gould in Proc. of Zool. Soc. 1862, p. 286.—Swinh. in Ibis, 1863, p. 410.

When the ornithologist meets with a species presenting such marked differences from its allies as those which exist in the present bird, he has no alternative but to assign to it a specific appellation. In size and general contour, the *Numenius rufescens* is very similar to our well-known Curlew *N. arquatus*, but is still more nearly allied to the *N. australis*; from the former it is distinguished by the spotting of its rump-feathers, and from the latter and every other known species of the genus by its rufous colouring. In the entire course of my ornithological studies, I have never seen any other bird of this form similarly coloured, or so strongly streaked on the rump; and I have much pleasure in including a figure of this new and singular species in the 'Birds of Asia.'

The following interesting notes respecting it are from the pen of Mr. Swinhoe:—

"The single specimen I procured of this very rufescent Curlew was shot on the sand-flat that divides the Tamsuy River near its mouth. It had for some days been observed, in company with its mate, passing to and returning from its feeding-ground; and my attention was drawn to it by the peculiar character of its long-drawn cry, being very different from that of the large species which visits those shores during the winter, and resembling the melancholy whistle of the Grey Plover. On dissection, this bird proved to be a female, with large, well-developed eggs in the oviduct, evidently within a few days of maturity, proving that its nesting-site could not have been far distant. From the developed state of the eggs and the late season of the year, I have little doubt of its being a resident species. It differs from the *Numenius major* of Japan, but agrees with *N. australis* of Australia (of which latter I procured examples on the Peiho flats, near Peking), in having a striated rump; but it is much more rufescent than that bird, and we cannot do otherwise than regard it as a well-defined species, closely allied to the Australian Curlew. If it be a good species (and I am inclined to think it is), it strikes me as rather strange that two species of true *Numenius* should be indigenous to the same semitropical island,—the smaller species, or Whimbrel, ranging over the southern portion, and the present species over the northern. On comparing my bird with a specimen of *N. australis* in Mr. Gould's collection, I observe that it has much thinner and fewer black streaks on the neck and breast."

Head, neck, upper and under surface reddish fawn-colour, deepest and most conspicuous on the rump and tail-feathers; down the centre of each feather a streak of blackish brown, broadest and most conspicuous on the back, rump, and upper tail-coverts; primaries blackish brown, strongly toothed on their inner margins with greyish white; tail-feathers irregularly crossed with blackish brown; thighs light buff; "bill blackish olive, tinted with flesh-colour, darker on the apical half; basal half of the lower mandible light flesh-colour, tinged with ochre; inside of the mouth flesh-colour; skin round the eye blackish brown; irides deep chocolate-brown; legs leaden grey, becoming black on the joints, webs, and sides of the toes; claws blackish brown, with ochreous edges." (Swinhoe.)

The figure is rather less than the natural size.

IBIDORHYNCHA STRUTHERSI, *Vigors.*

J. Gould and H.C. Richter, del. et lith.

Hullmandel & Walton, Imp.

IBIDORHYNCHA STRUTHERSI, *Vig.*

Red-billed Erolia.

Ibidorhyncha Struthersii, Vig. in Proc. of Comm. of Sci. and Corr. of Zool. Soc. part i. p. 174.—Gould, Century of Birds, pl. lxxix.

Red-billed Erolia, Hodgs. Journ. Asiat. Soc. Beng. vol. iv. p. 458.

——————— or *Gorgeted Chlorhynx*, Hodgs. Ib. pl. liv. low. fig.

Chlorhynchus Strophiatus, Hodgs. Journ. Asiat. Soc. Beng. vol. iv. p. 701.

Ibidorhynchus Struthersii, Gray and Mitch. Gen. of Birds, vol. iii. p. 568.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 265.

The present curious bird was one of the novelties I had the good fortune to make known to science in my "Century of Birds from the Himalaya Mountains," on reference to which it will be found that I therein remarked, that "throughout the whole of our new discoveries in the vast district which has furnished the subject of the present work, it would be difficult to point out a more interesting species than that before us, or one which has supplied ornithological science with characters more striking and peculiar; as it forms a union between two groups generally considered as widely separated from each other; the body, the general form and the legs of the *Ibidorhyncha Struthersii* being similar to those of the members of the genus *Hæmatopus*, while the bill is strictly that of an *Ibis*. I was not so fortunate as to receive a specimen of this bird; and it is to the kindness of Dr. Scouler, of the Andersonian Museum of Glasgow, who received it from Mr. Struthers, the gentleman who collected it, and whose name forms its specific appellation, that I was indebted for the opportunity of figuring it. Its habits and manners yet remain to be discovered and recorded."

It is very much to be regretted that even now, after a lapse of five-and-twenty years, no account has been received of the habits and economy of this singular form. That its habitat is somewhat restricted is rendered pretty certain from the unfrequent occurrence of specimens in Indian collections. The southern slopes of the Himalayas from Nepaul to our western frontier are probably the only parts of the country it frequents; at least it is from there only that I have received examples.

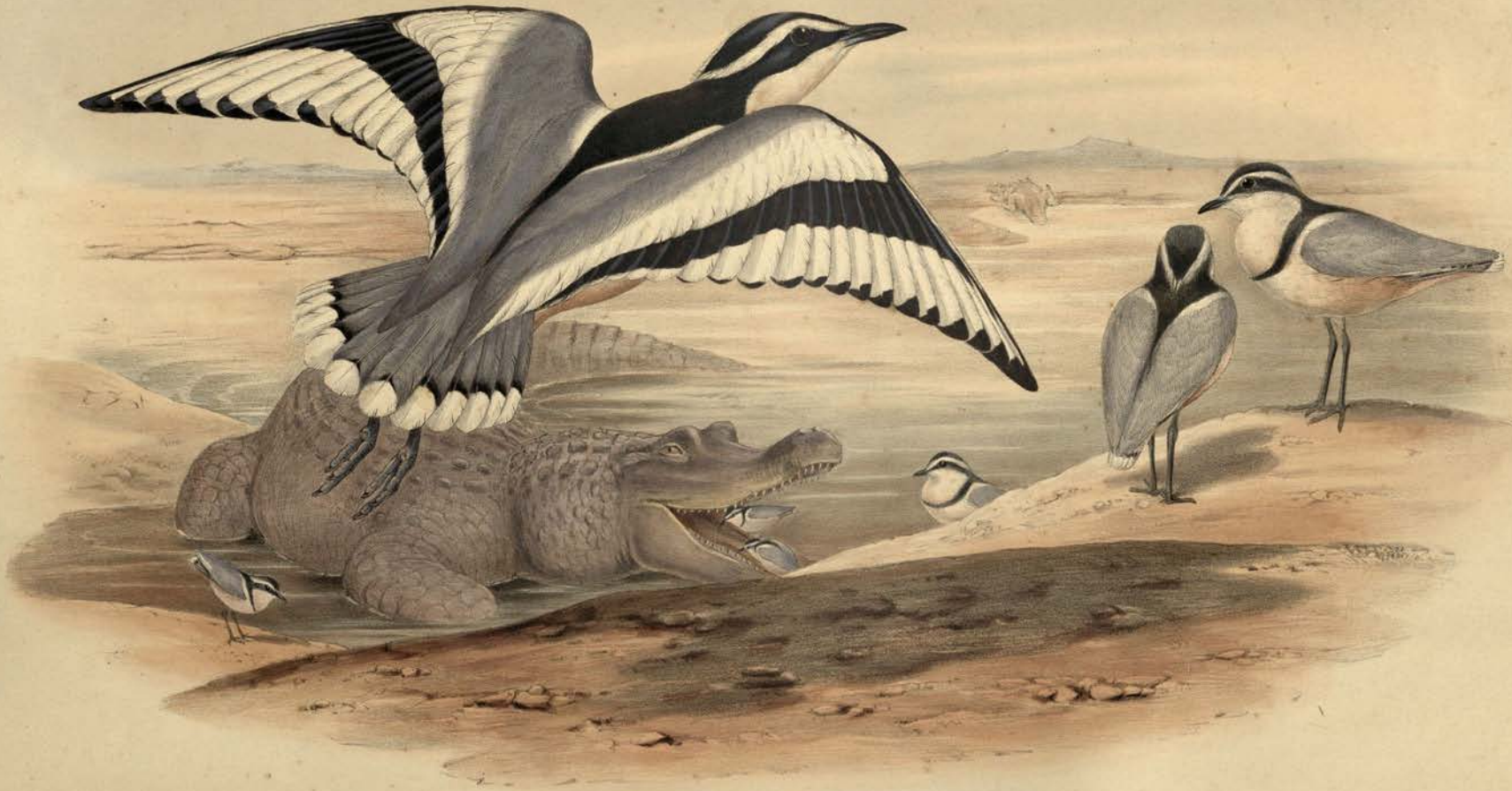
Mr. Hodgson, writing in August 1835, says, "The only specimen I have been able to procure was shot on the banks of a sandy stream in the valley of Nepaul in October last; and it was a mere passenger here, like the majority of the *grallatorial* and *natatorial* birds which visit us, and which make only a stage of our valley on their way from the plains of Tartary to those of India and back again.

"Weight ten ounces. The intestines are twenty inches long, larger above than below, tough, frequently semi-convolved or doubled, siphon-wise, and at three inches from the anal end they have two cæca, each nearly two inches in length. The stomach is small, but very muscular and gizzard-like, and the food of the species consists chiefly of minute univalve mollusca which it picks up on the sandy margins of rivers and streams. In such sites it is usually found; nor does it appear to be gregarious."

Considerable difference is observable in the breadth of the black band which crosses the chest; as also in the colouring of the face, which in some specimens is greyish; the bill too, in certain individuals, is reddish horn-colour instead of bright coral-red; the examples thus characterized may probably be females or young male birds which have not yet assumed their full plumage.

Forehead, top of the head, lores and throat black; neck pale cinereous, separated from the black of the head and face by a conspicuous streak of white; back and wings ashy grey; across the breast, extending upwards towards the back, a band of black, between which and the grey of the neck is a narrower band of white; under surface white; tail grey, irregularly barred with brownish black; outer feather on each side white, regularly barred with brownish black; these feathers and the next two or three are also tipped with brownish black; bill coral-red; feet red.

The Plate represents the bird of the natural size, with a smaller figure in the distance.



PLUVIANUS ÆGYPTIUS.

J.Wolf and H.C.Richter, del. et lith.

Walter Imp.

PLUVIANUS ÆGYPTIUS.

Zic-zac.

Charadrius Ægyptius, Linn. Syst. Nat., tom. i. p. 254.—Lath. Ind. Orn., vol. ii. p. 744.—Id. Gen. Syn., vol. v. p. 204, 9 A.
——— *Alexandrinus*, var. β. *Ægyptius*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 684.
——— *melanocephalus*, Gmel. edit. Linn. Syst. Nat., tom. i. p. 692.
——— *Africanus*, Sav. Desc. de l'Egypte, Ois., tab. 6. fig. 4.
——— *niger*, Bodd. Kittl. Kupf. Vög., t. 4. fig. 2.
Pluvianus chlorocephalus, Vieill. Nouv. Dict. d'Hist. Nat., tom. xxvii. p. 130.
——— *Ægyptius*, Gray and Mitch. Gen. of Birds, vol. iii. p. 536.—Loche, Cat. Mamm. et Ois. obs. en Algérie, p. 125.
Cursor charadrioides, Wagl. Syst. Av. *Cursor*, sp. 6.
Ammoptila charadrioides, Swains. Class. of Birds, vol. ii. p. 364.

The story of the old Greek writer Herodotus about the Trochilos entering the mouth of the Crocodile is well known to every classical scholar, and hence any remark on the subject is unnecessary; but I may state that ornithologists are divided in opinion as to whether the bird intended was the present one or the Spur-winged Plover (*Hoplopterus spinosus*), which is equally common on the banks of the Nile. The point is, however, of little moment, since, in all probability, the story is not founded on truth, and, if it were, one bird is just as likely to perform the office of teeth-cleaner to the Crocodile as the other. Recent research having ascertained that the *Pluvianus Ægyptius* is found within the western boundary of the Asiatic continent, I embrace the opportunity of inserting in the present work a drawing which was intended as an illustration of "an oft-told tale."

The true habitat of the *P. Ægyptius* is Africa, over the fluviatile portions of which it is dispersed from Egypt and Algeria southwards to Angola. As I know nothing of the bird from personal observation, I shall here transcribe the few meagre passages which have been published respecting it.

I commence with the following extract from Herodotus, which was sent to me by W. White Cooper, Esq., with the view of calling my attention to the subject.

"*Crocodile and Trochilos.*—All other birds and beasts avoid him; but he is at peace with the Trochilos, because he receives benefit from that bird. For when the Crocodile gets out of the water on land and then opens its jaws, which it does most commonly towards the west, the Trochilos enters its mouth and swallows the leeches: the Crocodile is so well pleased with this service that it never hurts the Trochilos."—*Herodotus, Euterpe*, chap. 68.

"To this species," says Dr. Leith Adams, "as well as to the spur-winged Lapwing, the name of Zic-zac is applied by the natives, who in bird-nomenclature, as in other subjects, evince no great accuracy or perception. It is not easy to see the reason why they should apply the above name to the Black-headed Plover, unless that it frequents the same situations, and is consequently mistaken for the other, as this handsome bird has neither in plumage nor voice any similarity to the Spurwing. The Black-headed Plover is usually seen in pairs, and breeds about March; its flight is rapid, and call loud and piping, One series of notes, when alarmed, it utters on wing, as it wheels past your boat and settles on the bank, resemble the words *chip-chip-hoit*. It is not common above the First Cataract, owing to the absence of sand-banks and islands." Speaking of the *Hoplopterus spinosus*, Dr. Adams says, "There appears to me better reason for considering this species the Trochilos of Herodotus than the *Pluvianus Ægyptius*, inasmuch as the well-known narrative of the Greek historian is still current among the Egyptians, and with reference to this bird, which they state, in its capacity of leech-catcher to the Crocodile, is sometimes shut up within the jaws of the animal when the latter falls asleep on a sand-bank. On such occasions the Zic-zac (so named from its call) applies his spurs to the Crocodile's mouth, by way of refreshing the memory of the latter that his faithful henchman is within, when the monster's jaws reopen immediately, as if his reptilian majesty was sorry for his obliviousness. This addition to the old story was given to me on good authority, as being very generally believed among the Nile boatmen."—'*Ibis*,' 1864, p. 29.

"In reply to your inquiry," writes Mr. F. H. Wenham, "I may state that I believe the story of the Zic-zac feeding in the Crocodile's mouth, and picking his teeth, to be a fable. I have seen upwards of a hundred Crocodiles, sometimes with these birds nestling under him, but never once in his jaws; and, moreover, the fare obtained from the Crocodile's mouth would be exceedingly meagre, for, upon dissecting one of the several I must plead guilty to having shot, I could find nothing adhering to his palate, teeth, or jaws; all

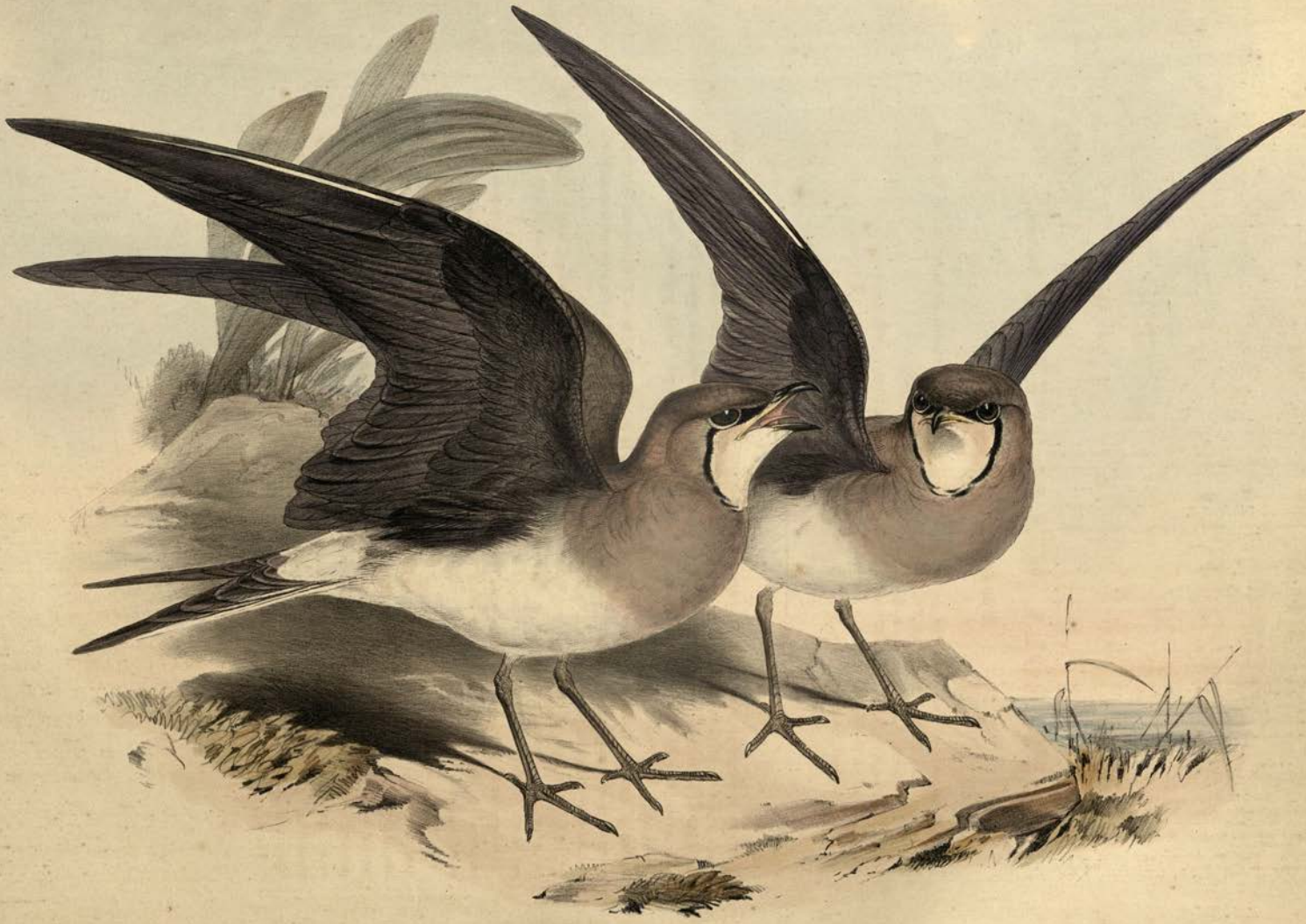
were perfectly clean, as was the case also with regard to a still larger one, fourteen feet long, which I had an opportunity of examining; nor could I discover any of the leeches and other parasites said to exist there."

Mr. Cavendish Taylor says, "I did not see this pretty species" (the *Pluvianus Ægyptius*) "below Cairo; but above I found it everywhere numerous. This is the bird which enjoys the credit of being the *Trochilos* of Herodotus, and as a matter of fact, I may state that I seldom saw a Crocodile on land without seeing a *Pluvianus Ægyptius* near him."—'*Ibis*,' 1859, p. 52.

The Rev. H. B. Tristram informs us that this bird was shot by the Rev. Ridley H. Herschell in the valley of the Jordan, a circumstance which entitles the species to a place in the 'Birds of Asia.'

Crown of the head, lores, stripe beneath and behind the eye, down the sides of the neck, back of the neck, upper part of the back, lengthened feathers down the centre of the back, and a narrow gorget extending from the sides of the neck across the lower part of the breast steely black; a narrow stripe over each eye, from the nostrils to the occiput, white; primaries black and white, the latter hue occupying the centre of the feathers; secondaries white, crossed by a broad band of black near the tip, beyond which is a narrow line of white; remainder of wings, scapularies, and back grey, separated from the black of the upper part of the back by a broad line of white; tail grey, tipped with white, the two colours separated on the lateral feathers by a narrow bar of black; throat and under surface white, washed with buff, which gradually increases in depth until it becomes deep sandy buff on the vent and under tail-coverts; irides dark brown; legs and feet pale blue.

The Plate represents the bird of the natural size, with several reduced figures around and in the mouth of a Crocodile.



GLAREOLA MELANOPTERA: *Verdm.*

J. Gould and H.C. Richter del. et lith.

Hullmandel & Walton Imp.

GLAREOLA MELANOPTERA, *Nordm.*

Black-winged Pratincole.

Glareola Nordmannii, Fisch.—Nordm. in Bull. de la Soc. d'Hist. Nat. de Moscou, 1842, p. 314. tab. ii.—Gray and Mitch. Gen. of Birds, vol. iii. p. 538.
——— *Pratincola*, Pall. Fauna Rosso-Asiat., tom. ii. p. 150.
——— *melanoptera*, Nordm. Bull. de la Soc. d'Hist. Nat. de Moscou, 1842, p. 314, note.
——— *Pallasii*, Bruch, Revue 1844, p. lxxxi.
Pratincola Pallasii, Degl. Orn. Eur., tom. ii. p. 110.

The term *melanoptera* proposed for this species by Nordmann being singularly descriptive of the feature by which it is distinguished from all the other members of the genus, I have determined upon adopting it, although by so doing I may be transgressing the rule of priority, the specific appellation of *Nordmannii*, assigned to it by M. Fischer de Waldheim, in honour of its discoverer, being probably the name first published.

One of the specimens from which my figures were taken is in the collection of T. C. Eyton, Esq., who received it with some other interesting birds from Persia, from which country I have seen other examples; and we also know that it is found in Asia Minor, and in the southern part of Russia.

The *Glareola melanoptera* offers a remarkable resemblance to the *G. torquata* of Europe, both in size and colouring, with the single exception that the under surface of the wing instead of being rufous is inky black, and hence the appropriateness of the name I have adopted.

Unfortunately, nothing whatever has been recorded of its habits, but we may reasonably infer that in these respects it as closely assimilates to the other members of the genus, as it does in its form and general style of colouring.

Head, back, scapularies, wing-coverts and tertiaries olive-brown; on the sides and back of the neck a wash of rufous; eye-lash beset with white feathers; lores black; throat buffy white surrounded by a narrow line of deep black, which is somewhat broken or interrupted on the breast; breast pale olive-brown; primaries, secondaries, under surface of the wing and the lengthened flank-feathers black; shaft of the first primary white both on the upper and under surface, the shafts of the remaining primaries white on the under surface only; abdomen, upper and under tail-coverts white; central tail-feathers olive-brown; the remainder white with black tips, all but the outer one on each side with the black bordered with olive-brown; irides brown; bill black; gape yellow; legs and feet olive.

The figures represent the two sexes of the natural size.

GLAREOLA LACTEA, *Temm.*

J.Gould & H.C.Richter, del. et lith.

Walter, Imp.

GLAREOLA LACTEA, *Temm.*

Cinereous Pratincole.

Glareola lactea, Temm. Man. d'Orn., 2nd. edit. tom. ii. p. 503.—Id. Pl. Col. 399.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 259.—G. R. Gray, Gen. of Birds, vol. iii. p. 538, *Glareola*, sp. 6.—Jerd. Birds of India, vol. ii. part ii. p. 632.—Gray, List of Spec. of Birds in Coll. Brit. Mus., part. iii. *Gallinæ*, &c., p. 62.

——— *orientalis*, Jerd. in Madras Journ. of Lit. and Sci., vol. xii. p. 215.

Galachrysia lactea, Bonap. Compt. Rend. de l'Acad. Sci., tom. xliii. séance du 2 aout 1856.

Cinereous Pratincole, Lath., Gen. Hist., vol. ix. p. 365.

Cream-coloured Pratincole, Griff. Anim. Kingd., vol. viii. p. 543, pl. 49.

Utteran of the Scindians.

This is one of the smallest species of a very isolated group of birds peculiar to the Old World, the by no means numerous members of which are very widely distributed. Europe is tenanted by two, India by three, Australia by two, and Africa by about the same number. In their habits and economy they are all very Swallow-like, as they also are in some parts of their structure. They hawk for insects in the air, but, unlike the Swallows, run nimbly over the ground; on the ground, too, they deposit their four speckled eggs, a circumstance which closely allies them to the Grallatores; and it is doubtless for this reason that the majority of naturalists place them in that order.

The *Glareola lactea*, besides being one of the smallest species of the genus, is also one of the most aerial of them; for it spends much of its time in the air, hunting for its insect food over streams and marshy places, for which its structure is well adapted, its wings being ample, its neck short, its feet diminutive. It appears to be distributed over, and stationary in, all parts of India; that country must therefore be regarded as its headquarters. Mr. Jerdon and other writers give some details respecting its breeding, but do not say if the young are capable of running immediately after they are excluded from the egg, or if they are helpless, like the young of Insessorial birds; a knowledge of this particular is very desirable, as it would tend to show the true position of the species in our systems.

This bird is figured in the drawings of the late Hon. F. J. Shore, from a specimen killed by him at Luckurghat, with the following note:—

"This bird, which is called *Kunyiu* by the boatmen at this place, is not seen during the rains; its manners and appearance are that of a Swallow, but its legs are like those of a Sandpiper. I saw some hundreds skimming over the Ganges, but only shot one. In February 1829 I observed numbers on the river between Futtighur and Allahabad."

The following is Mr. Jerdon's account, which I take the liberty of transcribing:—

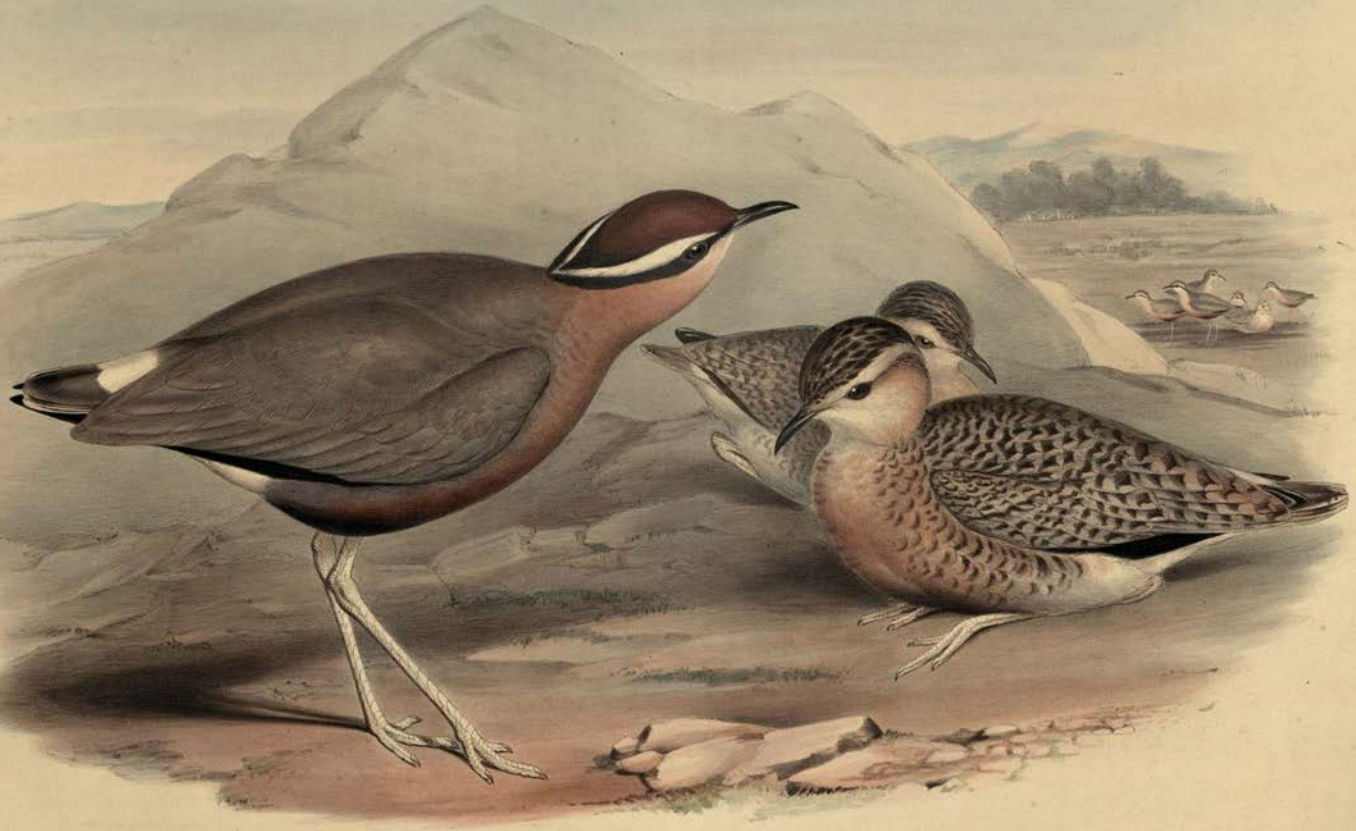
"The small Swallow-Plover occurs throughout the greater part of the country, and is very abundant in some localities, especially near large rivers. Now and then large parties are seen hawking over the plains and fields; but it prefers hunting up and down the banks of rivers, over sandy churrs, and by large tanks. In localities where they abound, vast parties may be seen every evening after sunset taking a long flight in a certain direction, and capturing insects as they fly. They live entirely on insects, which they capture in the air, in many cases Coleoptera. Several which I examined had partaken only of a species of *Cicindela*.

"I found them breeding at Thyetmyo, in Upper Burmah, with young just flown, in May; and Mr. Brooks, Civil Engineer, of Mirzapore, informs me that he found their nests in a large sandy churr near that place. The parents endeavoured to entice him away from their nests, just like a Plover. The eggs are pale stone-colour, with numerous small reddish-brown and a few dull purplish spots."

Upper surface pale brownish grey; upper tail-coverts white; tail white, crossed with dark brown for about one inch on the central feathers, diminishing to a quarter of an inch on the outer ones, and tipped with white; primaries brown, the first four with white shafts, and the inner web of the last four or five white, with brown tips; spurious wing dark brown; chin, throat, and breast pale brownish grey; chest rich buff; abdomen and under tail-coverts white; axillaries and under wing-coverts brown; bill black; gape red; feathered orbits white; irides dark brown; legs dusky green.

The young are very similar to the adults, except that the lower part of the neck is streaked and spotted with dark brown.

The Plate represents an adult of the natural size, and a young bird of the year, considerably reduced.



CURSORIUS COROMANDELICUS.

CURSORIUS COROMANDELICUS.

Indian Courser.

Charadrius Coromandelicus, Gmel. Edit. Linn. Syst. Nat. tom. i. pars ii. p. 692.—Vieill. Ency. Méth. Orn. part i. p. 24.

Cursorius asiaticus, Lath. Ind. Orn. vol. ii. p. 751.—Temm. Man. d'Orn. 2nde édit. tom. ii. p. 514.—Sykes in Proc. of Comm. of Sci. and Corr. of Zool. Soc. part ii. p. 165.—Less. Traité d'Orn. p. 530.

Courvite de la côte de Coromandel, Buff. Pl. Enl. 892.—Ib. Hist. Nat. des Ois. tom. viii. p. 129.

Tachydromus Coromandelicus, Ill. Prod. p. 250.

Coromandel Courser, Lath. Gen. Syn. vol. v. p. 217.—Ib. Gen. Hist. vol. ix. p. 353.

Cursor frœnatus, Wagl. Syst. Av. *Cursor*, sp. 2.

Tachydromus Asiaticus, Vieill. Gal. des Ois. tom. ii. p. 90.

——— *Coromandelicus*, Vieill. Ib. pl. 232.

——— *Orientalis*, Swains. Class. of Birds, vol. ii. p. 365.—Ib. Anim. in Menag. &c. p. 339.

Cursorius Tarayensis, Hodgs. in Gray's Misc. 1844, p. 86.

——— *coromandelicus*, Gray and Mitch. Gen. of Birds, vol. iii. p. 537, *Cursorius*, sp. 3, and App. p. 25. App. to p. 537.—Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 259.—Gray, List of Birds in Coll. Brit. Mus. part iii. p. 60.—Gray, List of Spec. and Draw. of Mamm. and Birds presented to Brit. Mus. by B. H. Hodgson, Esq., p. 131.—Jerd. Madras Journ. Lit. and Sci. vol. xii. p. 216.—Layard, Ann. and Mag. Nat. Hist. 2nd ser. vol. xiv. p. 108.

The members of the genus *Cursorius* are but few in number, and all are natives of the Old World. India is the natural habitat of two, if not of three species; of these, the one here figured has been noticed by nearly every writer on Indian ornithology, and would therefore seem to be almost universally dispersed over the country.

My son, the late Dr. J. H. Gould, says, in one of the last letters I received from him, "I procured my specimens of the *Cursorius Coromandelicus* in the neighbourhood of Kurrachee, where it is tolerably plentiful on the arid plains that subtend the fiery rocks so characteristic of Scinde. I have observed it there from May till September, that is, throughout the whole of the hot season, but am unable to say whether it is migratory or not. Towards the end of October it seems to collect and feed in small companies, six or seven being often seen within a short distance of each other. Although its structure is eminently adapted for running, it does not depend upon this power alone for safety, but readily takes flight when closely pursued; and, moreover, being wary in the extreme, you can rarely obtain other than a long shot at it. Its habits are very like those of the Houbara, and it frequents the same ground, being probably attracted by the same kind of food. The stomachs of those I examined contained the remains of grasshoppers and dragonflies, which at the time were very plentiful. The flesh of this bird forms no bad addition to the table."

The following notice of this species occurs among the MS. notes on Indian Birds by Captain Boys:—

"This beautiful bird is found at Sultanpore and Nusserabad, and is often seen on the way from Ferozepore to Sukhur; it has therefore a very wide range. Its flight is remarkably easy, and when disturbed it generally alights again at from fifty to one hundred yards. It is a very nimble runner, and does not stoop or crouch while running as most of the Plovers do. It is a very good bird for the spit."

Mr. Jerdon states that "The *Courier* is very numerous towards the more northern part of the table-land, much less so towards the south. It frequents the open bare plains only, in numerous flocks, running along with great celerity, and picking up various insects, beetles, and small grasshoppers, with their larvæ. It breeds in the more retired spots during the hot weather, laying three eggs of a pale greenish-yellow colour, much blotched and spotted with black, and also with a few olive spots. They are deposited in a slight hollow. In length the bird varies from 8½ to nearly 10 inches. As I have frequently killed birds of different lengths

from the same flock, I fancy that Swainson's supposed new species, *C. Orientalis*, said to differ only in size from the *C. Asiaticus*, must be abandoned."

Colonel Sykes informs us that this species is "numerous in Dukhun; but only on the open stony and grass plains. This bird has the shortness of intestine of the *Bustard* (equal to the length of the body), with a stomach nearly similar; feeding in the same manner on insects and their *larvæ*, and with the same cursorial habits."

Figures of this species occur among the drawings of the late Hon. F. J. Shore, and I find the following in reference to it among his MSS.:—

"I observed several examples about Julisor in the Aligurh district; they all appeared to be alike; their positions and motions when on the ground were very like those of a Plover: their flight resembled that of the Bahtah Goose. The stomachs of those I examined contained the remains of small beetles and other insects: the stomach of a female I examined upon another occasion was filled with large black ants.

"This bird is also common about Jubalpoor."

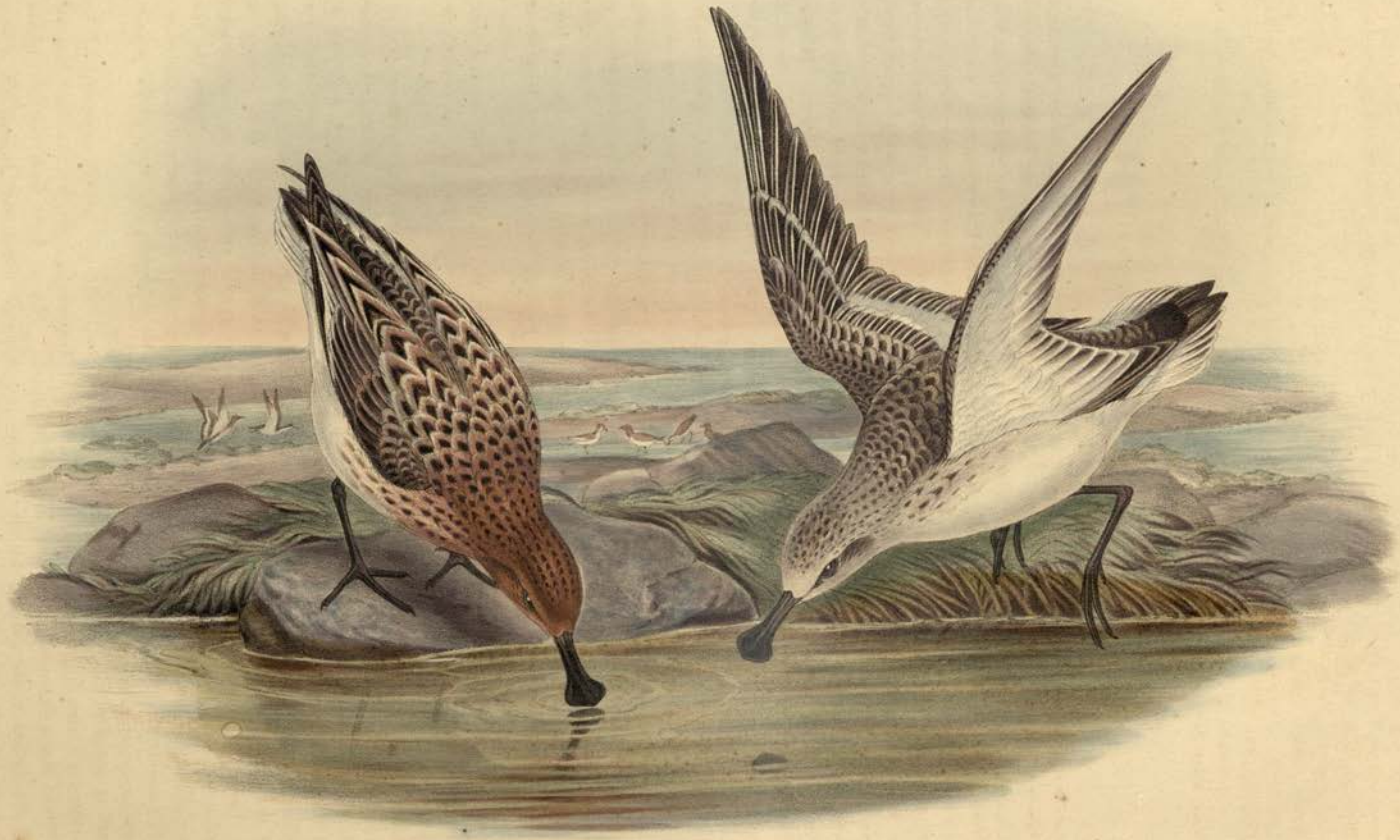
Mr. Layard states, in his interesting "Notes on the Ornithology of Ceylon," that "it is found occasionally in the Wally plains during the month of April."

The sexes are so nearly alike, that by dissection alone can they with certainty be distinguished. The young, examples of which were collected by Dr. Gould, are very different from the adults, as will be seen on reference to the accompanying Plate.

Forehead and crown reddish chesnut, bounded with deep black on the occiput; lores and a streak behind the eye meeting at the back of the neck black; over each eye a line of white passing backwards and uniting in the midst of the black of the occiput; chin and upper part of the throat buffy white, gradually passing into the light reddish chestnut of the breast and back of the neck; upper surface, scapularies and wing-coverts light olivaceous brown; primaries and secondaries bluish black; tertiaries tipped with white; outer tail-feather on each side white, with a narrow line of black down the apical portion of the shaft; the remainder olivaceous brown, the two central ones with a faint trace of a black band near the tip, the others with a broad band of black near the extremity and tipped with white, the extent of the white increasing as the feathers recede from the centre; upper part of the abdomen rich deep chestnut, gradually blending with the lighter hue of the breast; on the lower part of the abdomen a large patch of black; flanks olivaceous; vent, upper and under tail-coverts white; irides dark brown; bill black; legs and feet creamy white.

The young have the head and all the upper surface mottled with buffy white and dark brown; a faint wash of rufous on the back of the neck and breast; and the tips of the central tail-feathers mottled like the back.

The figures, which are of the size of life, represent a male in the fully adult livery, and two young birds in the variegated costume of their first autumn.



EURINORHYNCHUS PYGMÆUS.

J.Gould. & H.C.Richter, del. et lith.

Walter, Imp.

EURINORHYNCHUS PYGMÆUS.

Spoon-billed Sandpiper.

Platalea pygmæa, Linn. Mus. Ad. Frid., tom. ii., Prod. p. 26.—Id. Syst. Nat., 12th edit., tom. i. p. 231; Gmel. edit., tom. i. p. 615.

Eurinorhynchus griseus, Temm. Man. d'Orn., 2nd edit., tom. ii. p. 594.—Nilss. Orn. Suec., tom. ii. p. 29.—Jerd. Birds of India, vol. ii. part ii. p. 693.

——— *pygmæus*, Pears. Journ. Asiat. Soc. Beng., vol. v. p. 127.—Id. Asiat. Res., vol. xix. p. 69, pl. 9.—Bonap. Compt. Rend., tom. xliii. p. 596.—Gray & Mitch. Gen. of Birds, vol. iii. p. 580, pls. 152 and 156. fig. 6.—Harting, in Ibis, 1869, p. 426.—Gray, Hand-list of Birds, part iii. p. 51.—Swinh. in Ibis, 1867, pp. 234, 235.

——— *orientalis*, Blyth, Ann. & Mag. of Nat. Hist., 1844, vol. xiii. pp. 178, 179.—Id. Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 270.

Not more than twenty-four specimens of this highly curious little Sandpiper have been collected in a hundred years; and besides these, few others have been seen or satisfactorily determined as being identical with this rare bird. Linnæus was comparatively but a young man when he first became aware of the existence of such an anomaly. Nothing was then recorded respecting its history; nor should we have known where to look for the bird, had not other examples been obtained from time to time during the interval between the date when Linnæus wrote (1764) and that of Mr. Swinhoe's visit to China in 1866 (*vide* Ibis, 1867, p. 234). Had the illustrious Swede's specimen been the only one known, we might naturally have supposed that it was a mere lusus or freak of nature—an accidental dilatation of the mandibles of a Little Stint or some nearly allied species, so closely does the *Eurinorhynchus* assimilate to those birds; but as all the examples since discovered are alike, there is no doubt in my mind as to the specific if not the generic value of its distinguishing characters. Besides the general resemblance of its structure, the bird undergoes precisely the same changes of plumage in winter and summer as the Little Stint (*Actodromas minuta*)—the grey, white, and brown plumage of winter giving place to a russet-red colouring, more or less diffused, at the opposite season.

The habitat of Linnæus's example was stated to be Surinam; but this is a point which cannot now be determined: the chances are that a wrong locality was given to him, and that the temperate regions of the Old World and some parts of the Arctic Circle are its true home—the winter being spent at the sandy mouths of the great rivers of China and Asia generally, whence the bird retires northward to breed in those high regions upon which man has not yet entered, but where, doubtless, many others of our rarer Sandpipers lay their eggs and reproduce their young. Still this is mere surmise; and I might not have suspected such a probability had not the specimen in full summer plumage, now in the new Museum at Oxford, been collected on the verge of the polar seas.

An elaborate essay respecting this species having been published by Mr. Harting, I will say no more, but give this gentleman all the credit he deserves for the masterly manner in which he has treated the subject, by transcribing a large part of what he has said in 'The Ibis' for 1869.

"Notwithstanding the vagrant habits of the species which compose the *Limicolæ*, and the increasing researches of naturalists in all quarters of the globe, it is remarkable that a bird which was described more than a century ago by Linnæus should still be one of the rarest and least-known. From a perusal of all that has hitherto been published with reference to this species, it would appear that those who followed more immediately in the wake of Linnæus did little else than copy his original description, perpetuating by so doing the erroneous habitat which had been assigned to the bird, and adding little or nothing to its history. Under the name of *Platalea pygmæa* or *Eurynorhynchus griseus*, certain authors have created some confusion by describing birds which were properly referable to some other species; while the few original descriptions on record have all been taken from specimens which were procured in the winter plumage. For a long time the true habitat of *Eurynorhynchus* was unknown; and even at the present day its precise geographical range remains undetermined.

"The earliest notice of this species is to be found in an octavo catalogue usually appended to his 'Museum Ludovicæ Ulricæ Reginæ Suecorum,' &c., published by Linnæus in 1764, but entitled 'Museum Adolphi Friderici Regis Suecorum,' &c., Tomi secundi Prodromus. He, no doubt from the form of the bill, referred this species to the genus *Platalea*; a comparison, however, shows that beyond this resemblance it has really no connexion with that form. Its affinities, as pointed out by Cuvier and Temminck, are certainly with the genus *Tringa*; . . . at the same time it differs sufficiently to justify the course which Nilsson adopted in forming for its reception the new genus *Eurynorhynchus*, in which at present it stands alone.

"No specimen of this bird is to be found in the British Museum or in that of the Jardin des Plantes at Paris. Those who have had the opportunity of observing the habits of the Spoon-billed Sandpiper, assert that it frequents the mud-flats at the mouths of rivers and the sands of the sea-shore, where it consorts with various species of *Tringæ*, and obtains from the surface the abundant harvest of food which is always left by a receding tide. Of its nidification nothing is known.

"In the case of so rare a species, a list of the specimens which are at present known to exist will doubtless be interesting to many. I have therefore been at some pains to collect the following information:—

"1. The type specimen of Linnæus, locality unknown, but said (no doubt erroneously) to have been from Surinam, was in the Museum at Upsala in 1860. (Journ. für Orn., 1860, p. 290.)

"2. One from Edmonstone's Island, Saugur Sand, presented by Mr. Newcombe to the Museum of the Asiatic Society at Calcutta in 1836. (Journ. As. Soc. Beng., vol. v. p. 127.)

"3. One met with in Arrakan, by Capt. Lloyd, in 1836. (Asiatic Researches, vol. xix. p. 71.)

"4. One obtained in the Calcutta Bazaar, 1840. (Ann. & Mag. Nat. Hist., vol. xiii. 1844, p. 178.)

"5. One from Saugur Island, mouth of the Ganges, in the Derby Museum at Liverpool. Purchased by the late Earl of Derby from Mr. Leadbeater, about the year 1840. (Rev. Zool., 1842, p. 6.)

"6, 7. Two procured in 1846, at Amherst, in Tenasserim, by Mr. E. O'Ryley. (Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 270.)

"8–11. Three specimens in spirits, and one skin, sent by Mr. J. E. Bruce from Chittagong, 1856. (Journ. Asiat. Soc. Beng., vol. xxv. p. 445.)

"12–23. Twelve killed at two shots (!) by Mr. Chapman in Chittagong (Journ. f. Orn., 1859, pp. 326, 327).

"24. One in summer plumage, obtained in Behring's Straits on one of the Arctic expeditions, under Capt. Moore, in H.M.S. 'Plover' (Proc. Zool. Soc., 1859, p. 201)." This specimen was exhibited by Mr. Sclater on behalf of the owner, Mr. John Barrow, F.R.S., at one of the Zoological Society's meetings in 1859; and Mr. Barrow has recently presented it, with the remainder of his collection, to the new Museum at Oxford, where it may now be seen. I am not aware of the existence of any other example in this state of plumage.

For a full account of the bibliography of this singular bird, I must refer my readers to Mr. Harting's valuable paper in 'The Ibis' for 1869, p. 426.

In justice to the research bestowed upon the subject by this gentleman, I append his descriptions of the appearance of the bird at the opposite seasons of winter and summer.

"*Adult in winter*. Bill black, longer than the head, flat, dilated considerably at the extremity in a rhomboidal shape. Tongue broad and smooth. Forehead, cheeks, throat, and underparts pure white; crown, nape and sides of neck, back, wings, and upper tail-coverts dusky brown, each feather margined more or less with pale grey. Wings long and pointed; shafts of the primaries white; first quill-feather the longest. Tail short, rounded, consisting of twelve feathers, the two middle feathers the longest and darkest in colour. Legs and toes black, moderately long, slender, three toes in front, one behind, margined along the sides; a slight membrane connecting the base of the middle and outer toe on each foot. Total length 6 inches; bill 1 inch; wing, from carpus, 3·7; tarsus 0·9. (Exempl. typ. in Mus. Upsal.)

"*Adult in summer* (hitherto undescribed). Bill as above. Head, neck, breast, and back ferruginous; the feathers of the head, nape, and back with dark brown centres; those of the throat and breast slightly margined with white. Underparts, from the breast downwards, becoming gradually whiter towards the tail. Primaries somewhat darker than in winter. Legs and toes black. (Exempl. in Mus. Acad. Oxon.)"

The figures, which are of the size of life, represent the summer and winter plumage.

GALLINULA PHŒNICURA.

J.Gould & H.C.Richter, del. et lith.

Walter, Imp.

GALLINULA PHŒNICURA.

White-breasted Waterhen.

Rallus phœnicurus, Penn. Ind. Zool., p. 19, pl. 9.—Gmel. edit. Linn. Syst. Nat., tom. i. p. 715.

Gallinula phœnicura, Lath. Ind. Orn., tom. ii. p. 770.—Jerd. Birds of India, vol. ii. part ii. p. 720.—Swinh. Ibis, 1863, p. 427; 1870, p. 364.—Id. Proc. Zool. Soc., 1863, p. 321; 1871, p. 414.—Gray & Mitch. Gen. of Birds, vol. iii. p. 599, *Gallinula*, sp. 5.

Red-tailed Waterhen, Penn. Ind. Zool., p. 10, pl. 9; ibid. 4to, p. 49, pl. 12.

Red-tailed Gallinule, Lath. Ind. Orn., vol. ii. p. 770.—Id. Gen. Syn., vol. v. p. 259.—Id. Gen. Hist., vol. ix. p. 413.

Gallinula javanica, Horsf. Linn. Trans. vol. xiii. p. 196.—Id. Zool. Res. in Java, p. , pl. .—Sykes, in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part ii. 1832, p. 164.

——— *erythrina*, Bechst.

Fulica chinensis, Bodd.

La Poule Sultane brune, Buff. Hist. des Ois., tom. viii. p. 204.—Pl. Enl. 896.

Porzana phœnicura, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta. p. 284.—Swinh. Ibis, 1860, p. 67; 1861, p. 57.—Irby, Ibis, 1861, p. 246.—Schomb. Ibis, 1864, p. 261.—Blyth, Ibis, 1867, p. 171.

Gallinula (Erythra) phœnicura, Gray, Hand-list of Birds, part iii. p. 67.

Erythra phœnicura, Bonap. Compt. Rend. de l'Acad. Sci., tom. xliii. 1856, p. .

Dawak, *Dahak*, or *Dauk*, Hind.; *Boli-kodi*, Telugu; *Kureyn*, of Gonds; *Kurayi*, in Scinde. (Jerdon.)

Karawaka, Cinghalese; *Khaloo-gwet*, Aracan; *Roa-Roa*, Malay; *Tri-bombo*, Javan. (Blyth.)

Specimens of this Gallinule having lived for some time in the Zoological Society's Menagerie in the Regent's Park, I was not neglectful of the opportunity thus afforded me of noting the colouring of the soft parts during life, nor of making the drawing on the opposite Plate from a very clean and well-feathered example immediately after death. Of such opportunities advantage should always be taken, as they may lead to many interesting results; in the present instance a slight discrepancy has thus been detected between the colouring of the soft parts as represented by me from life and their description by Dr. Jerdon, who states that the irides are blood-red and the legs green, while in the living birds at the Gardens the former were brownish red and the latter wax-yellow: confinement, it is true, may have affected the colouring of the irides and legs, or it may be that those parts are heightened or of a different tint at different seasons.

That this bird is not a true Gallinule I freely admit; and any one writing a Monograph of the *Gallinulinæ* would classify the White-breasted Waterhen, with the species I have figured in the 'Supplement' to the 'Birds of Australia' under the name of *Gallinula rufierissa*, another from Timor, and perhaps some others, as a distinct form—which, indeed, has been done by the late Dr. Reichenbach, with the generic appellation of *Erythra*, the propriety of such a separation being confirmed when we regard the difference in the habits of these long-tarsed and short-toed birds, which are far less aquatic than those of the typical *Gallinulæ*, of which our Common Moorhen (*Gallinula chloropus*) is a prominent example.

Dr. Jerdon, speaking of the bird as observed by him in India, says:—

"The White-breasted Waterhen prefers thickets, hedgerows, and patches of thick jungle, often at some distance from water; and it is often seen in gardens and close to villages. It comes out into fields, gardens, &c. to feed, and, when approached, runs to its covert with great rapidity and erect tail; it climbs with facility through the thick shrubs and reeds, and is dislodged with difficulty. Near villages it is often very tame. It feeds both on grain and insects, and emits a loud call. Theobald found the nest in a jheel, made of weeds, containing seven eggs of a brownish cream-colour, spotted and blotched with brownish red. It is found throughout India and Ceylon, extending through Burmah into the Malayan isles."

Mr. Blyth states that "the blood of this species is accounted a valuable remedy by the natives of Bengal; hence, in the bazaar, the dealers want a higher price for it than for other birds of its size."

Captain Irby remarks that, in Oudh and Kumaon, the *Gallinula phœnicura* is "very common throughout the year, frequenting small ponds and swamps near villages."

In the MS. notes on Indian birds by the late Captain Boys, it is stated that he shot examples of this species at Khoonda Pool, on the 5th of December, 1840, where he found it "running over weeds and skulking under brushwood near the water; it is shy and difficult of access, flies slowly, but runs swiftly, and is very good eating."

The late Sir Robert Schomburgk, in his 'Notes on the Birds of Siam,' says that in that country "this Waterhen is not very common; it is very shy; and it was but seldom we could procure it as an addition to our commissariat."

Speaking of the bird as seen by him in China, Mr. Swinhoe says :—"This is, I think, a summer visitant; it is not uncommon during that season from Canton to Tientsin." "I saw it in a cage for sale at the city gate, and was informed that it had been caught in the neighbourhood of Canton." "At Amoy it is a rare spring straggler." In Formosa, "these birds were not uncommon about Taiwanfoo in summer, and at Tamsuy I procured several examples in March; but I cannot be sure as to their spending the winter in Formosa. In South China they are, I believe, birds of passage. Their eggs vary in shade of cream ground-colour, and are spotted and blotched, in some cases only freckled with cinnamon-red and light purplish grey. Length 1·65 in.; breadth 1·15." In Hainan, "this Moorhen was common everywhere about the lowlands. I saw it within the walls of Kiungchow city, and frequently in the country in its neighbourhood. Also at Heongpoo (W. Hainan)."

The sexes are alike in plumage, and may be thus described :—

Crown of the head, back of the neck, sides of the breast, and anterior portion of the flanks deep slate-grey, bounded anteriorly by a broad line of deep black; upper surface, wings, and tail deep olive; forehead, face, throat, anterior half of the neck, breast, and abdomen white; remainder of the abdomen, vent, and under tail-coverts deep chestnut; irides brownish red; bill light green, with a patch of orange at the base of the upper mandible; legs and feet wax-yellow.

The figures are of the natural size.

HŸDROPHASIANUS SINENSIS.

HYDROPHASIANUS SINENSIS.

Chinese Jacana.

Parra Sinensis, Lath. Ind. Orn., vol. ii. p. 764.—Gmel. Edit. Linn. Syst. Nat., tom. i. part ii. p. 709.—Gould, Century of Birds, pl. 77.—Gray, Ill. Ind. Zool., vol. ii. pl. 55.—Hodgs. in Gray's Zool. Misc. p. 86.—Sykes in Proc. of Comm. of Sci. and Corr. of Zool. Soc., part ii. p. 164.—Steph. Cont. of Shaw's Gen. Zool., vol. xii. part i. p. 269.—Vieill. 2nd Edit. du Nouv. Dict. d'Hist. Nat. tom. xvi. p. 451.—Ib. Ency. Méth. Orn., part iii. p. 1056.—Jerd. in Madras Journ. of Lit. and Sci., vol. xii. p. 204.

Chinese Jacana, Lath. Gen. Syn., vol. v. p. 246.—Ib. Supp., vol. ii. p. 324.—Lath. Gen. Hist., vol. ix. p. 391.—Ib. Gen. Syn. Supp., p. 256. pl. 117.

Parra Luzoniensis, Lath. Ind. Orn., vol. ii. p. 764.—Gmel. Edit. Linn. Syst. Nat., tom. i. part ii. p. 709.—Vieill. 2nd Edit. du Nouv. Dict. d'Hist. Nat., tom. xvii. p. 447.—Ib. Ency. Méth. Orn., part iii. p. 1057.

Le Chirurgien de l'Isle de Luçon, Sonn. Voy. à la Nouv. Guinée, p. 82. pl. 45.

Luzonian Jacana, Lath. Gen. Syn., vol. v. p. 245.—Ib. Supp., p. 256.—Ib. Gen. Hist., vol. ix. p. 390.

Le Jacana à longue queue, Cuv. Règn. Anim., tom. i. p. 498.

Parra phœnicura, Hodgs. in Gray's Zool. Misc., p. 86 (Gray).

Hydrophasianus Sinensis, Wagl. in Oken's Isis, 1832, p. 279.—Gray and Mitch. Gen. of Birds, vol. iii. p. 589.—Gray, List of Birds in Coll. Brit. Mus., part iii. p. 114.—Ib. Cat. of Spec. and Draw. of Mamm. and Birds presented to Brit. Mus. by B. H. Hodgson, Esq., p. 142.—Blyth, in Jard. Cont. to Orn. 1852, p. 53.

Tringa chirurgus, Scopoli.

Hydrophasianus Chirurgus, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 273.

Dál-Kukra, Hindoos, Blyth.

Bhépi or *Bhenpi*, Bengalese, Blyth.

Vuppi-pi, *Sohna*, *Surdul* and *Sookdel*, Lath.

Pee wa, at Cawnpore, Lath.

Pekwar, or *Joll mor*, Lath.

Water Peacock of the English, Lath.

This species may certainly be considered one of the most elegant Jacanas yet discovered, and India may well be proud of so graceful an ornament to her marshes, for a residence among which its entire structure is most admirably adapted, its body being light and buoyant in the extreme, and the great expanse of its feet and nails enabling it to traverse the floating herbage, leaves of the Nymphæa, &c. with the greatest facility. On the other hand, the filamentous or lancet-shaped terminations of the primaries would seem to militate against any great powers of flight, and accordingly while those who have had opportunities of observing it in a state of nature duly record the facility with which it swims and dives, they are silent as to its flight. That it is widely diffused over India, is evidenced by the circumstance that specimens occur in most of the collections sent from that country; it is also said to inhabit China and the Philippines.

It has been stated that the Chinese Jacana undergoes a seasonal change, but I think that this has not been clearly ascertained. To this point then I would direct the attention of those gentlemen who have opportunities of observing the bird in a state of nature. It is just possible that the females have the under surface always white; that the young males closely resemble them; and that fully adult males are distinguished by the style of plumage represented in the principal figure of the opposite Plate.

In Sir William Jardine's "Contributions to Ornithology" for 1852, Mr. Blyth informs us that "A good notice of the habits of the *Hydrophasianus* occurs in the 'Calcutta Sporting Review,' vol. v. p. 7. 'These birds,' remarks the writer, 'breed during the rains, in flooded spots where the lotus is plentiful, the pair forming a rude flat nest of grass and weeds, interwoven beneath with the long shoots of some growing aquatic plant, which retain it buoyant on the surface; herein are laid six or seven olive-brown, pear-shaped eggs, of an inch and a quarter in length. Their slender bodies and widely extending toes enable the Jacanas to run with facility, apparently on the water, but in reality wherever any floating leaves or green herbage meets their light tread. The food consists of the green tender paddy, or other vegetable growth dependent on inundation for its production, and the numerous species of insects that abound in such spots. The cry is like that of a kitten in distress, whence their native name of *meewah*. In flight the legs are trailed behind like those of the Herons. The flesh is excellent. It is remarkable, with respect to these birds, that

a winged or only wounded one is never recovered. Though not web-footed, they dive instantly on the attempt to capture them, and you see them no more.' Of course, like so many other waders and water-fowl (*Gallinules* and *Grebes* for instance), they remain concealed among the aquatic herbage, with the nostrils only above water, and so wait until they consider all danger over.

"As remarked by Mr. Jerdon, 'This handsome species is (in the Peninsula of India) perhaps more generally spread than the other Jacana (*Metopidius Indicus*), but is not so numerous, except in some few localities. It frequents, like the other, weeded and lily-covered tanks, but is also often to be seen feeding at the edges of rivers and tanks totally devoid of weeds. Feeds on seeds, also on shells and water-bugs.' This accords with our own observation in Bengal, where we have sometimes seen it, to all appearance, walking on the water, and slight and little visible were the supports on which its long toes really rested. So far as we have seen, it is much less gregarious than *Metopidius Indicus*. We have kept both species tame for months together, thriving well upon the shrimps upon which all our various small *Grallatores* were fed. *H. Sinensis* was, in the aviary, rather quarrelsome with its kind, but agreed well with every other species."

I find figures of the adult and young of this species among the drawings of the late Hon. F. J. Shore; and the following notes are taken from the accompanying MS.:—

"Futtehgurh, June 16, 1834.—I have been more than two years at this place, and have only observed these birds just at this season of the year and till July. Sometimes only a single one, at others a pair walking by the river side, or rather on sand-banks among the reeds and grass; upon one occasion I observed several pairs. The stomach of those examined contained insects.

"Meamgunj in Oude, Feb. 23, 1835.—Common in the marshes of Bengal; less so in those of the upper provinces. Found small shell-fish and insects in the stomach. If kept a short time these birds are very well flavoured and almost equal to snipe.

"In Nov. 1836, I found these birds in the Jubulpoor territories, and the stomachs of those I examined filled with rice."

Capt. Boys states that it is "common near Mando and at Nalcha. Runs nimbly over the water-plants which cover the lakes near Malwa, procuring its food as it runs: this consists of weeds, the larvæ of water-insects, and occasionally of the perfect insect.

"Its note resembles the word *pee-oo*, with an intonation resembling the Cuckoos, but somewhat sharper and shorter in the delivery."

The sexes, as will be seen by the following descriptions, differ very considerably in colour; the female is also much smaller than her mate.

Forehead, face, and front of the neck white; on the occiput a patch of black; back of the neck golden-buff, separated from the white by a narrow line of black; upper part of the body and the scapulars glossy chocolate-brown; under surface similar, but of a very much deeper hue; wings white, the spurious wing-feathers tipped with chocolate-black, the two outer quills entirely chocolate-black, the next chocolate-black with a large mark of white along the basal portion of the inner web, the six succeeding white, margined and tipped with chocolate-black; outer secondaries white; inner ones white, with a large patch of brown on the basal portion of the inner web; tail deep chocolate-black; bill, legs and feet varying in colour from deep green to a pale sickly pea-green; eyes dark brown; spur on the shoulder horn-colour.

The female and young male have the head and upper surface glossy mottled light and dark brown, some of the feathers being banded with freckles of black; wing-coverts lighter brown, crossed with freckled bands of dark brown; lores, and a broad irregular band passing down each side the neck and uniting on the breast in a gorget-like form, of a deep brown, mottled on the breast with buffy-white; from behind the eye down the side of the neck (behind the black band) passes a stripe of deep buff; chin and cheeks white; centre of the breast creamy-white; primaries white, at the base largely tipped with chocolate-brown; secondaries white; under surface and thighs white; centre tail-feathers light brown, the remainder white, mottled with brown down the centre; eyes dark brown; legs and feet pale green.

The front figure in the accompanying Plate is the size of life.

AIX GALERICULATA.

J. Wolf und H. C. Richter del. et lith.

Hullmandel & Walton Imp.

AIX GALERICULATA.

Mandarin Duck.

Anas galericulata, Linn. Syst. Nat., tom. i. p. 539.—Ib. Gmel. Edit., tom. i. p. 539.—Lath. Ind. Orn., tom. ii. p. 871.—Shaw, Mus. Lev., t. 10.—Ib. Gen. Zool., vol. xii. part ii. p. 94. pl. 47.—Lath. Gen. Hist, vol. x. p. 363.—Vieill. Gal. des Ois., tom. ii. pl. 287.—Temm. and Schleg. Fauna Jap., p. 127.—Less. Traité d'Orn., p. 635.

Querquedula Sinensis, Briss. Orn., tom. vi. p. 450.—Id. 8vo, tom. ii. p. 478.

Kinmodsui, Kæmpf. Jap., p. 129. pl. 10. fig. 3.

Yung-iang, of the Chinese.

Sarcelle de la Chine, Buff. Hist. des Ois., tom. ix. p. 276. pl. 19.—Ib. Pl. Enl. 805, 806.

Chinese Teal, Lath. Gen. Syn., vol. vi. p. 548.—Edw. Glean., pl. 102.

Le Canard de la Chine, Cuv. Règn. Anim., tom. i. p. 538.

Aix galericulata, Boie, Isis, 1828, p. ?—Gray and Mitch. Gen. of Birds, vol. iii. p. 614.—List of Birds in Coll. of Brit. Mus., part iii. p. 133.

Cosmonessa galericulata, Kaup, Isis, 1829.

Dendronessa galericulata, Swains.—Anim. in Menag., p. 233.

Lampronessa galericulata, Wagl. Isis, 1832.

Perhaps no group of birds is so generally dispersed over the surface of the globe as the great family of the *Anatidæ* or Duck tribe; even the arctic and antarctic portions of the globe being tenanted by species peculiarly adapted to those regions; the distant islands of New South Shetland, New Zealand and Kerguelen's Land having species which never approach the continents of Australia, Africa or America, while in the temperate regions of both hemispheres the species are various and abundant. As might be supposed, the members of a family so universally dispersed present much diversity of form, and comprise numerous genera, some of which are strictly marine, others lacustrine, others adapted for a rocky residence, and others again for perching on trees, &c. In this great group of birds two species occur pre-eminent for their beauty, viz. the *Aix sponsa* of North America and the *Aix galericulata* of China and Japan; these two birds are so precisely alike in structure and so similar to each other in colour for a short period of the year, as to require the scrutinizing eye of a good ornithologist to determine which is the one and which is the other; during the remainder of the year, the males, in obedience to a law which pervades the entire group, are dressed in a style of plumage so very different and so gorgeous in colouring, that they may not only dispute for the palm of beauty with each other, but are rendered some of the most conspicuously beautiful, interesting and extraordinary objects in the whole range of ornithology; the Chinese bird here represented will, however, doubtless secure the preference. Both species are as proud as they are beautiful, at the same time they are extremely docile, and not only display their lovely hue on the ground and while swimming, but both have a habit of perching on the branches of trees, and, consequently, as pets they are esteemed in the highest degree. The Mandarin Duck, whose native habitat is China and Japan, is so highly prized there, that not only is a high price demanded for living examples, but they are held back from Europeans with a degree of obstinacy which almost amounts to prohibition of their import; notwithstanding which many examples of both sexes have lately been brought to Europe, and, contrary to the assertion of Latham and others that they will not breed in this country, have bred repeatedly in the Gardens of the Zoological Society of London, and in the Menagerie of the late Earl of Derby; and the like success has attended their introduction into Holland. May we not then hope, that through the instrumentality of the Zoological Society, the lovely bird here represented may become fully naturalized? for although it can scarcely be serviceable as an article for the table, a more ornamental addition to our lakes and lawns cannot be found.

George Bennett, Esq., of Sydney, New South Wales, who has given an interesting account of this species in his "Wanderings in New South Wales, China, &c.," having stated that in its native country the male bird loses his gay plumage in May and remains until August in a dress which bears a close resemblance to that of the female, I was anxious to ascertain if a similar change took place at the same period in this country, and the following is the result of my observations on the specimens in the Society's Gardens.

The first egg was laid on the 2nd of May, 1851, the female began to sit on the 20th, and the young were hatched on the 20th of June. When the female commenced sitting the male began to throw off his fine plumage, and by the 1st of July had become so like the female as to be scarcely distinguishable; the primaries, however, which are only moulted once a year, were not fully perfected until the 3rd of August; these feathers were then beautiful green, with a narrow stripe of snow-white, for about an inch in length from their tips: the bill at this period was less brilliant, and the old male, the female, and their progeny were all so similar in size and colour as to render it difficult to distinguish one from the other, all having a beautiful olive mottled plumage, both chaste and elegant. One female laid six, another seven eggs; one set of which were incubated by one of the parent birds, the other by a common domestic hen; the latter incubating the eggs entrusted to her care two days earlier than the Duck. By the beginning of October the young males of these broods

as well as the old drakes had all assumed their full and gorgeous livery, the youthful birds being scarcely inferior in beauty to the adults; and perhaps a more interesting and lovely sight was never seen in the Gardens of the Zoological Society, rich as it has ever been in objects of the highest interest, than was to be observed in the aviary which contained this double brood of Mandarin Ducks. At least ten out of the sixteen birds were males, which during a part of the day were frequently to be seen perched on the branches of the trees, and at others were exhibiting in the proudest manner their lovely hues while swimming in the oval stone basin of water provided for their use. Circumstances having prevented me from continuing my observations beyond the date above-mentioned, I requested B. Misselbrook, the intelligent keeper who had charge of the birds, to take notes of the resumption of the full plumage of the old males, and the following are the details with which he has furnished me:—

August the 20th. The old Mandarin male began to change his plumage. The first indication of the change was the appearance of two or three white feathers on each side of the breast.

August the 23rd. The crest began to appear and the under parts of the body became nearly white.

August the 28th. The purple feathers on the breast began to show themselves.

September the 5th. The two large fan-shaped feathers began to appear, and also the small speckled feathers which cover the thighs.

September the 29th. The change was now entirely completed and the bird in the height of his beauty.

The manners of this pretty species appear to be as gentle and loving as its dress is gay and beautiful; on which account, as Mr. Bennett informs us, it is regarded by the Chinese as an emblem of conjugal fidelity, and is usually carried about in pairs in their marriage processions. When once mated their attachment appears to cease only with life; even those in captivity being constantly seen moving about in pairs.

The adult male has the forehead deep green; crown and back of the head chestnut, glossed with crimson; crest-feathers deep bluish green; feathers on the side of the head white; lores stained with pale rust-red, passing into the rich deep reddish chestnut of the feathers of the sides of the neck, each of which has a lighter stripe down the centre, the stripes on the upper ones being nearly white; back of the neck, back, wing-coverts, rump and upper tail-coverts olive; lower part of the neck and sides of the breast rich reddish plum-colour, immediately behind which on each side are three irregular crescentic bands of black, between which are two bands of white; scapularies nearest the body olive, the next row olive at the base, dull velvety black on the outer web, and shining purplish blue on the inner; to this succeeds a row white on the external web, olive on the inner, and tipped with steel-blue, and lastly a row, curving upward, white broadly bordered externally with velvety black; primaries dull black, broadly margined externally with silvery white and largely tipped on the internal web with green; bases and inner webs of the secondaries olive, the apical half of their outer webs deep shining green, passing into dull black near the tips, which are white; interior web of the inner secondary developed into a fan-shape, standing upright, and, *together with* a portion of the tip of the outer web, rich rust-red, edged on its upper half with white and on its lower half more broadly with black; outer web rich blue; flanks pale reddish brown, becoming much paler towards the extremity of the feathers, and transversely rayed with fine irregular lines of black, the rays increasing in breadth towards the extremities of the feathers, where they terminate in a conspicuous line of white, bounded at the tip with a broader one of black; under surface pure white; on either side near the tail a spot of purplish chestnut; tail-coverts olive-green; tail brown; bill vermilion; nail orange; feet yellow; eyes full, brownish black.

The female has the head, neck and crest dark brownish slate-grey; transverse line down the sides of the upper mandible, circle surrounding the eye and continued down the side of the head, and the chin white; upper surface, wings and tail olive-brown; secondaries tipped with white, several of them with a mark of purplish green near the tip bounded with velvety black, and with a line of white along the basal portion of the margin; breast and flanks brown, with an oval spot of very pale brown near the tip of each feather; under surface white; bill bluish grey; nail orange; tarsi and toes dull greyish yellow; webs greyish black.

The nestling bird has the whole of the upper surface, wings and tail brown; under surface brownish buff; behind the eye two narrow lines of brown.

The egg is of a delicate buffy stone-colour, two inches long by one inch and a half broad.

The Plate represents the two sexes of the natural size, from a spirited and beautiful sketch taken by Mr. Wolf from the living birds in the Gardens of the Zoological Society.

STERNA MELANOGASTER. *Temm*

J.Gould & H.C.Richter del. et lith.

Walter. Imp.

STERNA MELANOGASTER, *Temm.*

Black-bellied Tern.

Sterna melanogaster, Temm. Pl. Col. 434.—Burg. in Proc. Zool. Soc., part xxiii. (1855) p. 184.
—— *acuticauda*, Hardw. and Gray, Ill. Ind. Zool., pl. 70. fig. 3.
Hydrochelidon melanogaster, Gray, Gen. of Birds, vol. iii. p. 660, *Hydrochelidon*, sp. 7.—Bonap. Compt. Rend. de l'Acad. Sci., tom. xli.
Sterna javanica, Blyth, Cat. of Birds in Mus. Asiat. Soc. Calcutta, p. 293.—Jerd. Birds of India, vol. ii. part ii. p. 840.

This very elegant Tern is so generally distributed over the Indian peninsula that it seems superfluous to particularize the localities in which it has been observed by those who have paid attention to the ornithology of that country; but I may mention that Capt. Irby found it numerous in Oude and Kumaon, that the late Hon. F. J. Shore met with it at Lukurghat (where he states that the boatmen call it *chelooree*), that Capt. Burgess saw it in abundance on the sandbanks of the river at Sukkur about the middle of March, and also found it common on the river Bheena. Like other species of the genus, it occasionally ascends the rivers for a considerable distance from the sea, particularly those that are subject to inundations, and where sandy and shingly banks are the natural consequence.

"While walking on a sandbank in the midst of the river Bheena," says Captain Burgess, "I was beset by a pair of these Terns, and, on looking about on the ground, found two eggs deposited in a slight hollow scraped in the moist sand not far from the edge of the water. These birds, when flying overhead, utter a cry very like the chirp of a Sparrow. They breed during the months of March and April, laying two eggs of a rich stone-colour, spotted chiefly round the centre, and more sparingly over the larger end, with grey and light-brown spots, and measure one inch and rather more than two-tenths in length by one inch in width."

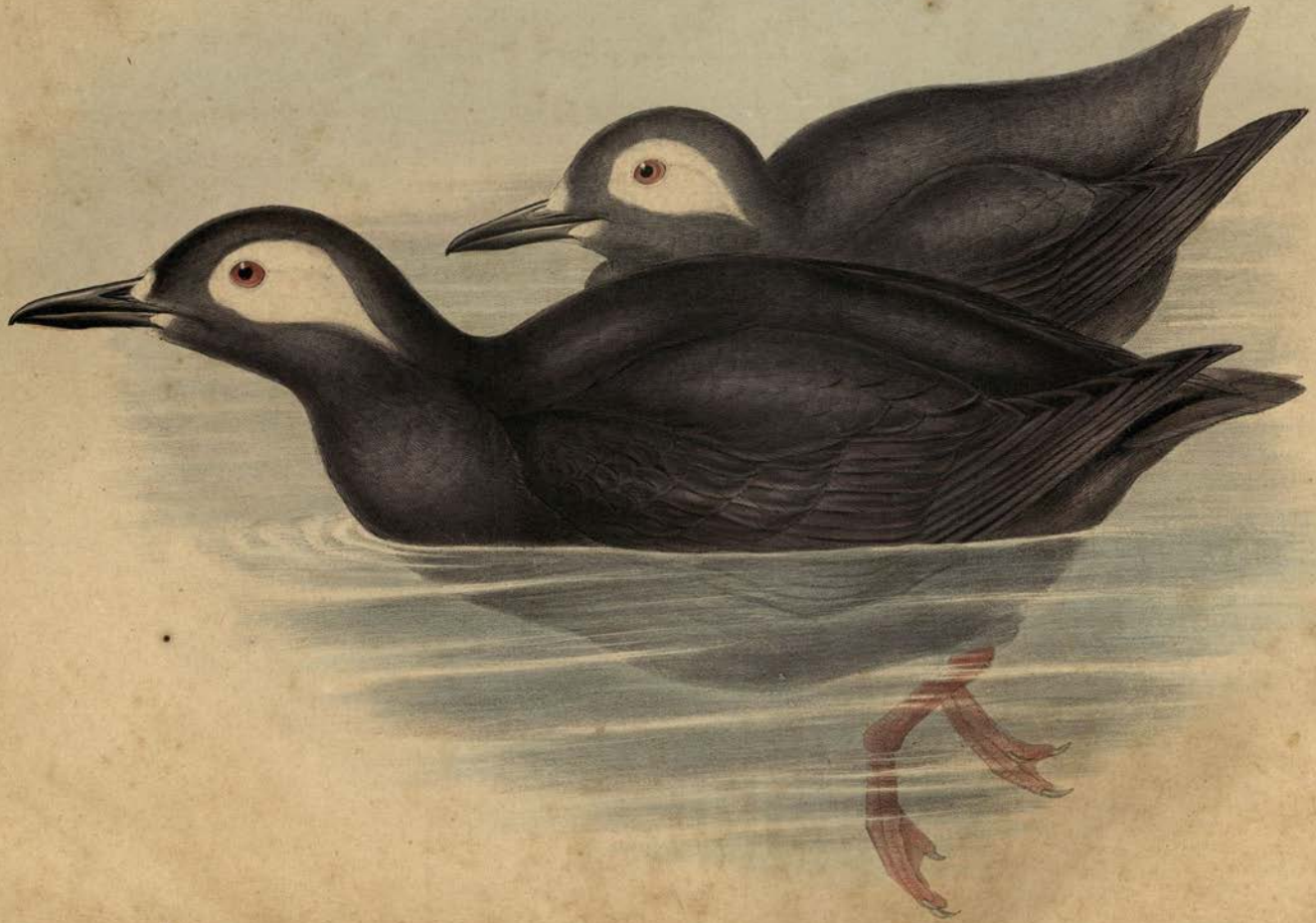
Mr. Jerdon states that "it is seen hunting singly or in small scattered parties over every river in India, and that it breeds on the sandbanks of the rivers in all parts of the country, and usually lays three eggs."

Some authors have considered this species to be identical with the *Sterna javanica* of Horsfield; but it only requires a careful reading of Horsfield's description, in the thirteenth volume of the 'Transactions' of the Linnean Society, to ascertain that this is a fallacy. Others, again, have associated it with the Marsh-Terns, and assigned it a place in the genus *Hydrochelidon*: this also is an error; for its delicate feet, as well as several other parts of its structure, indicate that it is a true *Sterna*, of which genus, beautiful as are most of its members, there is not one more graceful in contour, or more striking in appearance. As far as I am aware, it is the only species having a black belly—a feature which offers so strong a contrast to the delicate hue of the other parts of the plumage that it must render the bird a most conspicuous object during flight. I believe this mark is common to both sexes, and hence the name of *melanogaster* applied to it by Temminck is singularly appropriate.

Crown of the head and nape deep black; all the upper surface, wings, and tail light grey; shafts of the primaries and tail white; line at the base of the upper mandible, chin, and throat white; breast pearly white, gradually blending with the black of the abdomen and under tail-coverts; bill orange; irides brown; legs and feet vermilion.

"In winter," says Mr. Jerdon, "the head is white mixed with dusky, and the abdomen is pearly grey instead of black."

The Plate represents the bird of the natural size, in the plumage of summer.



URIA CARBO.

J. Gould and H.C. Richter del et lith.

Hullmandel & Walton Imp.

URIA CARBO.

Kurile Guillemot.

Cepphus Carbo, Pall. Zoog., p. 350. t. 79.
Uria Carbo, Brandt, Bull. de l'Acad. Sc. Imp. St. Petersb. vol. ii. 1837.—Gray and Mitch. Gen. of Birds, vol. iii. p. 645, *Carbo*, sp. 3.

The rocky coast of the great Peninsula of Kamtschatka, the Okotsk and Behring's Seas are the native habitat of this species of Guillemot, which may be regarded as the representative there of the *Uria Grylle* of Europe and America, and where it doubtless performs the same offices in the economy of nature, and exhibits precisely similar habits. It is an extremely rare bird in the collections of Europe, which is solely attributable to the circumstance of its being an inhabitant of such remote and little-frequented localities as above-mentioned. It was first made known to science by the great traveller and naturalist Pallas, who states that it is only found in the Eastern seas, that it is very plentiful about the Aleutian Islands, and especially on the rocks of Oonalaska, and that it migrates in the spring to the Kurile Islands, which stretch across from Kamtschatka to Japan.

This species is altogether a larger and more robust bird than the *Uria Grylle*, and, moreover, differs from it considerably in the colouring of the face, as shown in the accompanying Plate, the eye being surrounded by a large circle of pure white, presenting a striking contrast to the sombre hue of the general plumage.

I am indebted to Dr. Hartlaub and the other directors of the Museum at Bremen for the loan of a fine specimen of this bird, which with the greatest liberality was transmitted to London to enable me to give a figure of it in the "Birds of Asia". May I hope that similar favours will be accorded me by others who possess examples of the rare species described by Pallas and other Russian travellers, and of which so little is at present known? Such attentions will be duly appreciated and suitably acknowledged.

An irregular spot on either side of the base of the upper mandible, a second at the base of either side of the under mandible, the chin, and a large patch surrounding the eye and passing some distance down the side of the neck, white; the remainder of the plumage sooty black; bill black; legs and feet red; nails black; irides red.

The figures are of the natural size.

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